Bosnia and Hercegovina

GHS INDEX
GLOBAL HEALTH SECURITY INDEX
2021

This document is a compilation of all questions, justifications, and sources used to determine the 2021 Global Health Security Index scores for Bosnia and Hercegovina. For a category and indicator-level summary, please see the Country Profile for Bosnia and Hercegovina.

Category 1: Preventing the emergence or release of pathogens with potential for international concern

1.1 ANTIMICROBIAL RESISTANCE (AMR)

1.1.1 AMR surveillance, detection, and reporting

1.1.1a

Is there a national AMR plan for the surveillance, detection, and reporting of priority AMR pathogens?

Yes, there is evidence of an AMR plan, and it covers surveillance, detection, and reporting = 2, Yes, there is evidence of an AMR plan, but there is insufficient evidence that it covers surveillance, detection, and reporting = 1, No evidence of an AMR plan = 0

Current Year Score: 0

Although Bosnia and Herzegovina has networks for surveillance of AMR pathogens at entity level, it does not have a national AMR plan for the surveillance, detection and reporting of priority AMR pathogens. According to the World Health Organization (WHO) Annual Report for 2018, "Central Asian and Eastern European Surveillance of Antimicrobial Resistance", "AMR surveillance activities in Bosnia and Herzegovina are conducted by two networks; one in the Federation of Bosnia and Herzegovina and one in the Republic of Srpska" (two entities in Bosnia and Herzegovina which are recognized as a second tier of government). According to the WHO library of national action plans, Bosnia and Herzegovina does not have a state AMR plan for the surveillance, detection and reporting of priority AMR pathogens. [1]

The Commission for Control of Resistance to Antimicrobial Medicines in the Republic of Srpska has prepared, and currently monitors, the implementation of the Program for Control of Resistance to Antimicrobial Medicines in Republic of Srpska 2016–2020. [2] In addition, there is the Strategic Program for Control Resistance of Bacteria to Antibiotics for the Canton of Sarajevo for 2017–2019 (Sarajevo is the capital of Bosnia and Herzegovina), but this does not cover the whole territory of the Federation of Bosnia and Herzegovina. [3] Websites of other relevant institutions of the Federation of Bosnia and Herzegovina, such as the Ministry of Health and Institute for Public Health, do not have information about the existence of an AMR plan for the surveillance, detection and reporting of priority AMR pathogens at the federal level. [4, 5]

[1] World Health Organization (WHO). "Library of national action plans". [https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed 30 October 2020.
[2] World Health Organization (WHO). 2018. "Annual Report for 2018, Central Asian and Eastern European Surveillance of Antimicrobial Resistance". [https://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/publications/2018/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance-annual-report-2018-2018]. Accessed 30 October 2020.
[3] Canton Sarajevo. Ministry of Health. 2017. "Strategic Program for Control Resistance of Bacteria to Antibiotics for the area of Canton Sarajevo for period 2017-2019 (Strateški program za kontrolu otpornosti bakterija na antibiotike za podrucje kantona Sarajevo za period 2017-2019)". [https://mz.ks.gov.ba/sites/mz.ks.gov.ba/files/startegija_rezistencije_ks_2017-2019_parafirano.pdf]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://sjz.ba/zavod_za_javno_zdravstvo_fbih]. Accessed 30 October 2020.

1.1.1b

Is there a national laboratory/laboratory system which tests for priority AMR pathogens?

All 7 + 1 priority pathogens = 2 , Yes, but not all 7+1 pathogens = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina has a national laboratory system which tests for some, but not all, priority AMR pathogens. According to a World Health Organization (WHO) Annual Report for 2018, "Central Asian and Eastern European Surveillance of Antimicrobial Resistance", "AMR surveillance activities in Bosnia and Herzegovina are conducted by two networks: one in the Federation of Bosnia and Herzegovina and one in Republic of Srpska" (two entities in Bosnia and Herzegovina). Based on available information, such as the WHO Annual Report (page 36, section 5.2.2), the laboratory system of Bosnia and Herzegovina has testing capacities for the following priority AMR pathogens: E.coli, K. pneumonia, S. aureus, S. pneumoniae, Salmonella spp. [1] This testing is conducted by the Institute for Clinical Microbiology of the University Clinical Center of the Republic of Srpska, which has 13 laboratories, and the Clinical Department for Microbiology of the Clinical Center of the University of Sarajevo, which represents a laboratory system for the Federation of Bosnia and Herzegovina and has six laboratories. [2, 3] Based on the websites of the Ministries of Health and Agriculture and Institutes for Public Health, there is no evidence that these facilities have the capacity to conduct testing for the remaining AMR pathogens. [4, 5, 6, 7, 8, 9]

[1] World Health Organization (WHO). 2018. "Annual Report for 2018, Central Asian and Eastern European Surveillance of Antimicrobial Resistance". [https://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/publications/2018/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance-annual-report-2018-2018]. Accessed 30 October 2020.
[2] Institute for Clinical Microbiology of the University Clinical Centre of Republic of Srpska. [https://www.kc-bl.com/Lat/?page_id=1989]. Accessed 30 October 2020.
[3] Clinical Department for Microbiology of Clinical Centre of the University of Sarajevo. [http://www.kcus.ba/klinicka_mikrobiologija.html]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

1.1.1c

Does the government conduct environmental detection or surveillance activities (e.g., in soil, waterways) for antimicrobial residues or AMR organisms?

Yes = 1 , No = 0

Current Year Score: 0

Although there are relevant agencies in Bosnia and Herzegovina that conduct detection or surveillance activities (e.g. in soil, waterways, etc.), there is no public evidence that these activities include surveillance for antimicrobial residues or AMR organisms. The Institute of Public Health of the Republic of Srpska is responsible for conducting "bacteriological, parasitological, virological, serological, chemical and toxicological examinations and tests related to the production and

marketing of foodstuffs, water, air, objects of general use, as well as partial diagnostics of infectious and non-communicable diseases belonging to the field of public health". [1]

The Institute of Public Health of the Federation of Bosnia and Herzegovina, Service for Health Ecology, is responsible for monitoring, studying and evaluating the "safety and quality of drinking water, surface waters, and the state of water supply", and "carries out public health microbiological activity of interest to the Federation of Bosnia and Herzegovina, etc." [2]

However, there is no mention of testing for AMR resistance. There is also no evidence that there is a national plan for AMR via the World Health Organization (WHO) Library of National Action Plans on AMR. [3] In addition, the Ministries of Health do not provide evidence of a government agency responsible for conducting detection or surveillance activities (e.g. in soil, waterways, etc.) for antimicrobial residues or AMR organisms. [3, 4, 5]

[1] Republic of Srpska. Institute for Public Health. "Scope of work". [http://www.phi.rs.ba/index.php?view=clanak&id=24]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Service for Health Ecology. "Scope of work". [http://www.zzjzfbih.ba/sluzba-za-higijenu-i-zdravstvenu-ekologiju/]. Accessed 30 October 2020.
[3] World Health Organization (WHO). "Library of National Action Plans". [https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

1.1.2 Antimicrobial control

1.1.2a

Is there national legislation or regulation in place requiring prescriptions for antibiotic use for humans?

Yes = 2 , Yes, but there is evidence of gaps in enforcement = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina there is legislation in place requiring prescriptions for antibiotic use for humans, but there is evidence of gaps in enforcement. Such prescriptions are regulated by relevant ordinances, which were adopted in 2012 in the Republic of Srpska and in 2010 in the Federation of Bosnia and Herzegovina.

Article 2 of the Ordinance on Conditions of Registration and Purchasing of Medicines in Republica Srprska and Article 2 of the Ordinance on Conditions of Registration and Purchasing of Medicines in Retail stipulate that a prescription is issued for a medicinal product placed on the market in accordance with the Law on Medicines and Medical Devices and permission issued by the Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. Article 5 of the Ordinance on Conditions of Registration and Purchasing of Medicines in Republica Srprska and Article 9 of the Ordinance on Conditions of Registration and Purchasing of Medicines in Retail state that prescriptions for antibiotics are valid for three days. [1, 2] The Bosnia and Herzegovina Agency for Medicinal Products and Medical Devices has a list of medicines for which a prescription is needed, including antibiotics. [3] According to media outlets, there is evidence that citizens are using antibiotics without prescriptions. During 2016, citizens consumed 5,200,000 packs of antibiotics, which equates to 433,333 boxes a month or 14,444 boxes of antibiotics a day. [4, 5]

[1] Republic of Srpska. Ministry of Health. 2012. "Ordinance on Conditions of Registration and Purchasing of Medicines (Pravilnik o uslovima i izdavanju lijeka, Sl. glasnik RS", br. 62/2010)".

[http://www.podaci.net/_ZAKON_BiH/propis/Pravilnik_o_uslovima/P-upilij03v1062.html]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. 2010. "Ordinance on Conditions of Registration and Purchasing of Medicines in Retail (Pravilnik o uvjetima za propisivanje i izdavanje lijekova u prometu na malo, SlN FBiH, br. 01-37-4749/11)".
[http://mz.ks.gov.ba/sites/mz.ks.gov.ba/files/Pravilnik%20o%20uvjetima%20za%20propisivanje%20i%20izdavanje%20lijekova%20na%20malo%20SLn%20FBiH%2042-11.pdf]. Accessed 30 October 2020.
[3] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "List of Medicines".
[http://lijekovi.almbih.gov.ba:8090/SpisakLijekova.aspx]. Accessed 30 October 2020.
[4] Srpska info. 12 November 2018. "Warning of experts: by taking antibiotics 'on their own' BiH citizens endanger their lives".
[https://srpskainfo.com/upozorenje-strucnjaka-uzimanjem-antibiotika-na-svoju-ruku-gradjani-bih-ugrozavaju-zivot/].
Accessed 30 October 2020.
[5] Nezavisne. 15 November 2018. "In one year, BiH citizens consumed 5,200,000 boxes of antibiotics".
[https://www.nezavisne.com/novosti/drustvo/Za-godinu-dana-gradjani-BiH-popili-5200000-kutija-antibiotika/508244].
Accessed 30 October 2020.

1.1.2b

Is there national legislation or regulation in place requiring prescriptions for antibiotic use for animals?

Yes = 2 , Yes, but there is evidence of gaps in enforcement = 1 , No = 0

Current Year Score: 2

In Bosnia and Herzegovina there is legislation in place requiring prescriptions for antibiotic use for animals. In the Federation of Bosnia and Herzegovina prescriptions for antibiotic use for animals is regulated by the Ordinance on the Registration and Purchase of Medicines Applicable in Veterinary, adopted in 1999. Article 3 states that medicines can be issued only with prescriptions. [1] In the Republic of Srpska prescriptions for antibiotic use for animals are regulated with the 'Ordinance on the Registration and Purchase of Medicines Applicable in Veterinary', adopted in 1996. Article 3 states that medicines can be issued only with prescriptions. [2] Based on a review of the websites of the ministries of health and agriculture and media outlets there is no evidence of gaps in enforcement of legislation. [3, 4, 5, 6]

[1] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. 1999. "Ordinance on the Registration and Purchase of Medicines applicable in Veterinary (Pravilnik o nacinu propisivanja i izdavanja lijekova koji se upotrebljavaju u veterinarstvu, Broj 05-24-376/99)". [https://fmpvs.gov.ba/wp-content/uploads/2017/Veterinarstvo/Veterinarstvo-pravilnici/vet-prav5499.pdf]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. 1996. "Ordinance on the Registration and Purchase of Medicines applicable in Veterinary (Pravilnik o nacinu propisivanja i izdavanja lekova koji se upotrebljavaju u veterinarskoj medicini, Broj: 09-335-260/96)".
[https://rzsm.org/images/stories/RZSM/Propisi/MPSV/%20Veterinarstvo/MPSV_Vet_Za%20promjenu/75-7-96-Pravilnik%20o%20nac%20prop%20i%20izd%20lijekova%20u%20veterin%20med.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

1.2 ZOONOTIC DISEASE

1.2.1 National planning for zoonotic diseases/pathogens

1.2.1a

Is there national legislation, plans, or equivalent strategy documents on zoonotic disease?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina, there is relevant legislation on zoonotic disease, based on the Laws on the Protection of Population from Infectious Diseases. These laws, adopted at the entity level, regulate the system of protection of the population against infectious diseases, and include measures that are mandatory for the prevention, suppression, elimination and eradication of infectious diseases, and outline rights and obligations of the relevant authorities. [1, 2] In the Republic of Srpska, Article 6, Section 4 of the Law on the Protection of Population from Infectious Diseases refers to zoonotic diseases. Some of the zoonotic diseases mentioned under this article include malaria, anthrax, salmonella, and rabies. [1] In the Federation of Bosnia and Herzegovina, Article 8 of the Law on the Protection of Population from Infectious Diseases refers to zoonotic diseases. Some of the zoonotic diseases mentioned under this article include lyssavirus, measles and malaria. [2]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.

1.2.1b

Is there national legislation, plans or equivalent strategy document(s) which includes measures for risk identification and reduction for zoonotic disease spillover events from animals to humans?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is no national legislation, plans or equivalent strategy document(s) that include measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. Laws on the Protection of Population from Infectious Diseases do not have measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. [1, 2] Article 5 of the Ordinance on surveillance of zoonosis and causes of zoonosis prescribes that such programs can be introduced in case routine measures are not sufficient. [3] Websites of the ministries of health and agriculture do not have additional information about measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. [4, 5, 6, 7]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.

[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[3] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis (Pravilnik o nacinu pracenja zoonoza i uzrocnika zoonoza, Sl. glasnik BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

1.2.1c

Is there national legislation, plans, or guidelines that account for the surveillance and control of multiple zoonotic pathogens of public health concern?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina has relevant legislation for the surveillance and control of multiple zoonotic pathogens of public health concern. The Ordinance on Surveillance of Zoonosis and Causes of Zoonosis, adopted in 2010, is based on the veterinary law and defines surveillance and control of two major and several sub-groups of zoonotic diseases: "A. Zoonosis and zoonotic agents involved in monitoring: brucellosis; Campylobacteriosis; listeriosis; Salmonellosis (zoonotic salmonellosis); Trichinellosis; echinococcosis; tuberculosis caused by Mycobacterium bovis; Escherichia coli that secretes verotoxin, Rabies, Q fever and B. A list of zoonoses and zoonotic agents that are monitored in accordance with the epidemiological situation: 1. Viral zoonoses: infection with calicivirus; hepatitis A virus; Influenza virus; infections of viruses transmitted by arthropods; coronavirus; SARS CoV; 2. Bacterial zoonoses: borreliosis; Botulism; leptospirosis; Chlamydia; Mycobacteriosis other than tuberculosis caused by Mycobacterium bovis; Vibriosis; jersinia; 3. Parasitic zoonoses: Anemia; Cryptosporidiosis; cysticercosis; toxoplasmosis; 4. Other zoonoses and zoonotic agents." The Ordinance defines the responsibilities of relevant authorities such as collection of appropriate and comparable data (Article 4), reporting on trends and sources of zoonoses, causative agents of zoonosis and antimicrobial resistance (Article 9), etc. [1] The Veterinary Law in Article 11 defines obligatory and special preventive measures in the case of zoonosis (e.g. implementation of safe hygienic measures, veterinary control and inspection of animals, etc.). [2]

[1] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis (Pravilnik o nacinu pracenja zoonoza i uzrocnika zoonoza, Sl. glasnik BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.
[2] Parliament of Bosnia and Herzegovina. 2002. "Law on Veterinary (Zakon o veterinarstvu, Sl. glasnik BiH, broj: 34/22)". [http://www.vet.gov.ba/pdffiles/Zakon_O_Vetrinarstvu/Zakon%20o%20veterinarstvu_hr.pdf]. Accessed 30 October 2020.

1.2.1d

Is there a department, agency, or similar unit dedicated to zoonotic disease that functions across ministries?

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Bosnia and Herzegovina has a body dedicated to zoonotic disease that functions across ministries.

According to Article 4 (5) of the Ordinance on Surveillance of Zoonosis and Causes of Zoonosis, the system of surveillance and control of zoonosis is based on the work of institutions that are members of the Joint Commission for Surveillance of Zoonosis: Veterinary Office of Bosnia and Herzegovina, Ministry of Agriculture, Water Management and Forestry of the Federation of Bosnia and Herzegovina, Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska, Department of Agriculture, Forestry and Water Management of the Brcko District of Bosnia and Herzegovina, Ministry of Civil Affairs of Bosnia and Herzegovina, Ministry of Health of the Federation of Bosnia and Herzegovina, Ministry of Health and Social Welfare of the Republic of Srpska, Department for Health and Other Services of the Brcko District of Bosnia and Herzegovina. The Joint Commission is a permanent body without its own budget. It meets periodically, has a coordinating role, and sets the rules for surveillance activities, data that needs to be collected, etc. [1] It does not have its own website, and information about frequency of meetings is not available. There is no further evidence of a cross-ministerial agency for zoonotic disease on the websites of the Ministries of Health, Institutes of Public Health and Ministries of Agriculture, Forestry and Water Management, or the Veterinary Directorate. [2, 3, 4, 5, 6, 7, 8]

[1] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis, Pravilnik o nacinu pracenja zoonoza i uzrocnika zoonoza, Sl. glasnik BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/Pages/default.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[8] Veterinary Directorate of Bosnia and Herzegovina. [http://www.vet.gov.ba/?q=en/node/133]. Accessed 30 October 2020.

1.2.2 Surveillance systems for zoonotic diseases/pathogens

1.2.2a

Does the country have a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina has a mechanism for owners of livestock to conduct and report on disease surveillance to relevant government agencies. In the Federation of Bosnia and Herzegovina, in line with guidance on how to report infectious animal diseases, owners of livestock are in the group of those who are obliged report on disease surveillance to the closest veterinary organization or veterinary inspector (Articles 1 and 2). The guidance does not specify how the reporting should be undertaken. [1] In Republic of Srpska, in line with the Ordinance on how to report suspicion or finding of infectious animal diseases, owners of livestock are obliged to report on disease surveillance to the closest veterinary organization or veterinary

inspector (Article 2). Reporting should follow the template in Annex 2 of the Ordinance. [2] According to Article 14 of the Veterinary Law, veterinary organizations or veterinary inspectors on the entity level are obliged to inform the Veterinary Office of Bosnia and Herzegovina on disease surveillance. [3]

[1] Federation of Bosnia and Herzegovina. Federal Administration for Inspection Affairs. 1998. "Guide on how to report infectious animal diseases (Uputstvo o nacinu prijavljivanja zaraznih bolesti životinja)". [http://www.fuzip.gov.ba/bundles/websitenews/gallery/files/118/1499846151116_Uputsvo_o_na%C4%8Dinu_prijavljivanja_zaraznih_bolesti_%C5%BEivotinja_(''Sl_novine_FBiH'',_broj__67_09).pdf]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. 2008. "Ordinance on how to report suspicion or finding of infectious animal diseases, the process of registration and cancellation of infectious animal diseases (Pravilnik o nacinu obavještavanja o sumnji ili nalazu zarazne bolesti životinja, nacinu i postupku prijave i odjave zarazne bolesti životinja, Sl. RS, br. 01-33-29609/08)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Documents/Pravilnik%20o%20nacinu%20obavjestavanja%20o%20sumnji%20na%20zaraznu%20bolest%20zivotinja%20nacinu%20i%20postupku%20prijave%20i%20odjave%20SG%20RS%20br%206%2009.pdf]. Accessed 30 October 2020.
[3] Council of Ministers of Bosnia and Herzegovina. 2002. "Veterinary Law in Bosnia and Herzegovina (Zakon o veterinarstvu u Bosni i Hercegovini, "Sl. glasnik BiH", br. 34/2002)". [https://www.paragraf.ba/propisi/bih/zakon-o-veterinarstvu-u-bosni-i-hercegovin.html]. Accessed 30 October 2020.

1.2.2b

Is there legislation and/or regulations that safeguard the confidentiality of information generated through surveillance activities for animals (for owners)?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina does not have laws or guidelines that safeguard the confidentiality of information generated through surveillance activities relating to animals (for owners). Veterinary law of Bosnia and Herzegovina, the Republic of Srpska and the Federation of Bosnia and Herzegovina do not refer to safeguarding the confidentiality of information generated through such surveillance activities. Furthermore, there are no by-laws that regulate this area. [1, 2, 3] In addition, according to the Law on the Protection of Personal Data, applicable to the whole territory of Bosnia and Herzegovina, the data controller cannot share personal information with a third party before informing the data holder. If the data holder does not agree to this, such personal information cannot be shared unless it is in the public interest. However, it is not clear if this law safeguards the confidentiality of information for owners of animals which is generated through surveillance activities. [4]

[1] Parliament of Bosnia and Herzegovina. 2002. "Veterinary Law in Bosnia and Herzegovina (Zakon o veterinarstvu, Sl. BiH, br. 34/02)". [http://vfs.unsa.ba/web/images/dokumenti/Zakon_o_veterinarstvu_u_BiH.pdf]. Accessed 30 October 2020.
[2] National Parliament of Republic of Srpska. 2017. "Veterinary Law (Zakon o veterinarstvu, Sl. RS, br. 75/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-veterinarstvu-u-republici-srpskoj-0]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. 2000. "Veterinary Law (Zakon o veterinarstvu, Sl. FBiH, br. 46/00)". [http://www.vladahbz.com/sadrzaj/dokumenti/ministarstvo-poljoprivrede-vodoprivrede-i-sumarstva/Zakon%20o%20veterinarstvu%20F%20BiH.pdf]. Accessed 30 October 2020.
[4] Parliament of Bosnia and Herzegovina. 2011. "Law on Protection of Personal Data (Zakon o zaštiti licnih podataka, 'Sl. glasnik BiH', br. 49/2006, 76/2011 i 89/2011)". [https://www.paragraf.ba/propisi/bih/zakon-o-zastiti-licnih-podataka.html]. Accessed 30 October 2020.

1.2.2c

Does the country conduct surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors)?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina conducts surveillance of zoonotic disease in wildlife (e.g. wild animals, insects, other disease vectors, etc.). The Veterinary Office of Bosnia and Herzegovina conducts surveillance of zoonotic disease in line with the Ordinance on Surveillance of Zoonosis and Causes of Zoonosis. Article 2 of the Ordinance defines zoonosis as a disease and/or an infection that is naturally transmitted directly or indirectly between animals and people and therefore includes zoonotic disease in wildlife as well. The Ordinance classifies zoonotic diseases in several categories and lists them in the Annex. Zoonotic diseases in wildlife are also included in this list and include salmonella and rabies. [1, 2] There is also evidence that the government is actively conducting surveillance. In the Report on Food Safety in Bosnia and Herzegovina for 2018, the section relating to identified zoonosis in Bosnia and Herzegovina cites reported cases of zoonotic diseases in wildlife (e.g. 25 cases of trichinosis in wild pigs). [3]

[1] Veterinary Directorate of Bosnia and Herzegovina. [http://www.vet.gov.ba/?q=en/node/133]. Accessed 30 October 2020.
[2] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis (Pravilnik o nacinu pracenja zoonoza i uzrocnika zoonoza, Sl. glasnik BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.
[3] Food Safety Agency of Bosnia and Herzegovina. 2018. "Report on Food Safety in Bosnia and Herzegovina for 2018 (Izvještaj u oblasti bezbjednosti hrane u Bosni i Hercegovini za 2018. godinu)". [https://www.fsa.gov.ba/old/images/PPI/Izvje%C5%A1taj_o_stanju_u_oblasti_sigurnosti_hrane_za_2018.pdf]. Accessed 30 October 2020.

1.2.3 International reporting of animal disease outbreaks

1.2.3a

Has the country submitted a report to OIE on the incidence of human cases of zoonotic disease for the last calendar year?

Yes = 1 , No = 0

Current Year Score: 0

2019

OIE WAHIS database

1.2.4 Animal health workforce

1.2.4a

Number of veterinarians per 100,000 people

Input number

Current Year Score: 21.78

2018

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: -

No data available

OIE WAHIS database

1.2.5 Private sector and zoonotic

1.2.5a

Does the national plan on zoonotic disease or other legislation, regulations, or plans include mechanisms for working with the private sector in controlling or responding to zoonoses?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina has no mechanism for working with the private sector in controlling or responding to zoonoses. The Ordinance on Surveillance of Zoonosis and Causes of Zoonosis makes no reference to mechanisms for working with the private sector in controlling or responding to zoonoses. [1] There is no evidence of such mechanisms on the websites of the Ministries of Health, Institutes of Public Health and Ministries of Agriculture, Forestry and Water Management, or the Veterinary Directorate. [2, 3, 4, 5, 6, 7, 8]

[1] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis (L8213, Sl. glasnik BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.

[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/Pages/default.aspx]. Accessed 30 October 2020.

[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

[4] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.

[5] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.

[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

[8] Veterinary Directorate of Bosnia and Herzegovina. [http://www.vet.gov.ba/?q=en/node/133]. Accessed 30 October 2020.

1.3 BIOSECURITY

1.3.1 Whole-of- government biosecurity systems

1.3.1a

Does the country have in place a record, updated within the past five years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has in place a record, updated within the past five years of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities. Laws on Protection from Infectious Diseases, Vertic database, as well as the websites of the Ministries of Agriculture, Security, Health, Science and Institute for Public Health, do not have any additional information about monitoring facilities that have dangerous pathogens and toxins. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [11]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.

[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.

[3] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.

[4] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.

[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.

[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

[7] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.

[8] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.

[9] Republic of Srpska. Institute for Public Health. "Scope of work". [http://www.phi.rs.ba/index.php?view=clanak&id=24]. Accessed 30 October 2020.

[10] Federation of Bosnia and Herzegovina. Institute for Public Health. "Scope of work". [http://www.zzjzfbih.ba/istorijat-zavoda-za-javo-zdravstvo-federacije-bosne-i-hercegovine/]. Accessed 30 October 2020.

[11] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.1b

Does the country have in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems, and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. The Ministries of Agriculture, Security, Health and Science, as well as the VERTIC database do not have any information about biosecurity legislation and related enforcement agencies. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [11]

[1] Ministry of Security of Bosnia and Herzegovina. "Laws in Republic of Srpska". [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/dokumenti/zakoni/default.aspx?id=6987&langTag=en-US]. Accessed 30 October 2020.

[2] Ministry of Security of Bosnia and Herzegovina. "Laws in Federation of Bosnia and Herzegovina". [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/dokumenti/zakoni/default.aspx?id=6984&langTag=en-US]. Accessed 30 October 2020.

[3] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.

[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.

[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

[6] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.

[7] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.

[8] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.

[9] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

[10] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.

[11] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.1c

Is there an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has in place legislation and/or regulations related to biosecurity and therefore it does not have an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations. The websites of the Ministries of Agriculture, Security, Health and Science as well as the Institutes for Public Health and VERTIC database do not have any information about biosecurity legislation and related enforcement agencies. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [11]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[10] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[11] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.1d

Is there public evidence that shows that the country has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities?

Yes = 1 , No = 0

Current Year Score: 0

There is no public evidence that shows that Bosnia and Herzegovina has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. Similarly, the Ministries of Agriculture, Security, Health and Science as well as the Institutes for Public Health and Verification, Research, Training and Information Center (VERTIC) database have no publicly available evidence that Bosnia and Herzegovina has taken actions to consolidate its inventory of dangerous pathogens into a minimum number of facilities. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [11]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.

[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[10] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[11] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.1e

Is there public evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR)�based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen?

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient public evidence of in-country capacity of Bosnia and Herzegovina to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen. According to an EU-funded project, "Contribution of Organization of Civil Society to Strengthening Partnership Dialogue and Cooperation of Governmental and Non-Governmental Sector in System of Public Health", the laboratory system of the Institute for Public Health of the Republic of Srpska has the capacity for PCR diagnostic testing. [1] Additionally, based on the public procurement procedures for specific equipment, it can be concluded that the Institute for Public Health of the Federation of Bosnia and Herzegovina has the capacity for PCR diagnostic testing. [2] However, on the websites of the Institutes for Public Health, Ministries of Health and Ministry of Security there are no firm references to the capacity for testing for anthrax and/or Ebola. [3, 4, 5, 6, 7]

[1] EU-funded project. "Contribution of Organization of Civil Society to Strengthening Partnership Dialogue and Cooperation of Governmental and Non-Governmental Sector in system of Public Health". Institute for Public Health of Republic of Srpska. [http://sjz.ba/institut_za_javno_zdravstvo_rs]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Institute for Public Health. 2018. "Decision on the initiation of a public procurement procedure for the award of a contract for the purchase of reagents for PCR, reagents for Cell culture I and subcutaneous materials for Celiac cultures 11 and 111, primarily for equipping laboratories in the Clinical Centre of the University of Sarajevo (Odluka o pokretanju postupka javne nabavke za dodjelu ugovora o nabavci reagenasa za PCR, reagenasa za Celijske kulture I i potmhog materijala za Celijske kulture 11 i 111, primarno za opremanje laboratorija u KliniEkom eentru Univerziteta u Sarajevu)". [http://www.zzjzfbih.ba/wp-content/uploads/2018/06/Odluka-o-pokretanju-postupka-javne-nabavke-reagenasa-za-UKC-Sarajevo-2018.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-

Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[7] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/Default.aspx?langTag=bs-BA&template_id=103&pageIndex=1]. Accessed 30 October 2020.

1.3.2 Biosecurity training and practices

1.3.2a

Does the country require biosecurity training, using a standardized, required approach, such as through a common curriculum or a trainthe-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina requires biosecurity training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The websites of relevant institutions including the Ministries of Security, Health, Agriculture and Institutes for Public Health, as well as the Verification, Research, Training and Information Center (VERTIC) database do not have information about organized training. [1, 2, 3, 4, 5, 6, 7, 8] The last available information about organized training is from 2011 and relates to "Good microbiological laboratory practices" organized within the Institute for Public Health of the Federation of Bosnia and Herzegovina. [9] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [10]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/Default.aspx?langTag=bs-BA&template_id=103&pageIndex=1]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. "Education". [http://www.zzjzfbih.ba/kategorija/centar/]. Accessed 30 October 2020.
[7] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/index.php?view=kategorija&id=18]. Accessed 30 October 2020.
[8] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. "Training: Good microbiological laboratory practices". [http://www.zzjzfbih.ba/siguran-rad-i-dobra-praksa-u-mikrobioloskim-laboratorijima-gmlp/]. Accessed 30 October 2020.
[10] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.3 Personnel vetting: regulating access to sensitive locations

1.3.3a

Do regulations or licensing conditions specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to the following checks: drug testing, background checks, and psychological or mental fitness checks?

Personnel are subject to all three of these checks = 3, Personnel are subject to two of these checks = 2, Personnel are subject to one of these checks = 1, Personnel are not subject to any of these checks = 0

Current Year Score: 0

There is no public evidence that in Bosnia and Herzegovina regulations or licensing conditions specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to the following checks: drug testing, background checks, and psychological or mental fitness checks. Internal acts of the Institute for Public Health of the Federation of Bosnia and Herzegovina do not require any checks of security or other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential. [1, 2] Internal acts of the Institute of Public Health in the Republic of Srpska and Veterinary Office of Bosnia and Herzegovina are not publicly available. [3, 4] In addition, the websites of the Ministries of Security, Health and Agriculture, and ministries responsible for research, as well as the Verification, Research, Training and Information Center (VERTIC) database do not have any information about regulations or licensing conditions that specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to specific checks. [5, 6, 7, 8, 9, 10, 11, 12] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [13]

[1] Federation of Bosnia and Herzegovina. Institute for Public Health. 2016. "Ordinance on internal control and internal control processes (Pravilnik o internim kontrolama i internim kontrolnim postupcima u Zavodu za javno zdravstvo Federacije Bosne i Hercegovine)". [http://www.zzjzfbih.ba/wp-content/uploads/2015/01/Pravilnik-o-internim-kontrolama-i-internim-kontrol.-postupcima-ZZJZ-FBiH_bos-7-7-2016.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Institute for Public Health. 2006. "Rules of Procedures (Pravilnik o radu)". [http://www.zzjzfbih.ba/wp-content/uploads/2015/01/Pravilnik-o-radu-ZZJZ-FBiH_hr-7-9-2006.pdf]. Accessed 30 October 2020.
[3] Veterinary Office of Bosnia and Herzegovina. Organizational structure. [http://www.vet.gov.ba/?q=sr/node/140]. Accessed 30 October 2020.
[4] Republic of Srpska. Institute for Public Health. "Documents". [http://www.phi.rs.ba/index.php?view=clanak&id=25]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/Default.aspx?langTag=bs-BA&template_id=103&pageIndex=1]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[10] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/Pages/default.aspx]. Accessed 30 October 2020.
[11] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.

[12] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[13] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.3.4 Transportation security

1.3.4a

Does the country have publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B)?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available information on national regulations on the safe and secure transport of infectious substances (Categories A and B). Bosnia and Herzegovina's national regulations on the safe and secure transport of infectious substances do not include Categories A and B, although the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) is applicable in the country, which includes Categories A and B. In Bosnia and Herzegovina, transport of dangerous goods is regulated at the entity level (Republic of Srpska and Federation of Bosnia and Herzegovina). In the Republic of Srpska, the Law on Transport of Dangerous Goods regulates the conditions for the transport of dangerous goods in certain means of transport, rights and obligations of persons involved in transport, conditions for packaging and vehicles, issuing approval for transportation, etc. Article 8 of the Law defines classes of dangerous goods, including infectious substances. There is no mention of Categories A and B. [2] In the Federation of Bosnia and Herzegovina (FBiH), the Law on Transport of Dangerous Goods is still not formally adopted. House of Representatives of FBiH Parliament adopted the Draft Law on Transport of Dangerous Goods in 2016 and House of Peoples of the Parliament of the FBiH approved it in 2017 for launching public debate. Although the public debate has been concluded, the final text of the Law has not been sent by the Government to the FBiH Parliament for final approval. [3, 4] This also does not mention Categories A and B. However since 1993, Bosnia and Herzegovina is part of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) which includes Categories A and B. [1] Although Bosnia and Herzegovina submitted Confidence Building Measures every year since 2016, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [5] The Verification, Research, Training and Information Center (VERTIC) database does not have additional information on national regulations on the safe and secure transport of infectious substances (Categories A and B). [6]

[1] UN Treaty Collection. 1993. "European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)". [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XI-B-14&chapter=11&clang=_en#3]. Accessed 30 October 2020.
[2] Republic of Srpska. 2015. "Law on Transport of Dangerous Goods (Zakon o prevozu opasnih materija)". [http://mup.vladars.net/zakoni/nacrt_lat/NACRT%20ZAKONA%20O%20PREVOZU%20OPASNIH%20MATERIJA.pdf]. Accessed 30 October 2020.
[3] Istinomjer. 2018. "The transport of dangerous goods in FBiH is not regulated even in 2017." [https://istinomjer.ba/prevoz-opasnih-materija-u-fbih-nije-regulisan-ni-u-2017-godini/]. Accessed 30 October 2020.
[4] Government of the Federation of Bosnia and Herzegovina. 2016. "Draft Law on Transport of Dangerous Goods (Nacrt Zakona o prevozu opasnih materija)" [https://www.paragraf.ba/nacrti-i-prijedlozi/NACRT_ZAKONA_O_PRIJEVOZU_OPASNIH_MATERIJA_FEDERACIJE_BOSNE_I_HERCEGOVINE.pdf]. Accessed 30 October 2020.

[5] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.
[6] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.

1.3.5 Cross-border transfer and end-user screening

1.3.5a

Is there legislation and/or regulations in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins, and pathogens with pandemic potential?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has national legislation in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. Websites of relevant institutions including the Ministry of Security, Ministries of Health, Ministries of Interior and Institutes for Public Health, as well as the Verification, Research, Training and Information Center (VERTIC) database do not have any supporting evidence on this. [1, 2, 3, 4, 5, 6, 7, 8] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [9]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[8] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[9] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.4 BIOSAFETY

1.4.1 Whole-of-government biosafety systems

1.4.1a

Does the country have in place national biosafety legislation and/or regulations?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina has in place national biosafety legislation. The Law on Safety at Work of the Republic of Srpska and the Law on Safety at Work of the Federation of Bosnia and Herzegovina regulate protection from biological substances which are used during work or present in the working environment, such as biological agents, or micro-organisms, including genetically modified cell cultures and endoparasites of human and animal origin, which can cause infection, allergy or poisoning. The Laws prescribe preventive measures (e.g. appropriate technological processes) and outline responsibilities of employers (e.g. to ensure usage of appropriate equipment and resources for personal protection). [1, 2] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, and it is not known if they contain information on this matter. [3]

[1] Republic of Srpska. 2008. "Law on Safety at Work (Zakon o zaštiti na radu, Sl. RS, br. 28/94)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mpb/PAO/Documents/Zakon%20o%20zastiti%20na%20radu.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2018. "Law on Safety at Work (Zakon o zaštiti na radu)". [https://www.paragraf.ba/nacrti-i-prijedlozi/prijedlog-zakona-o-zastiti-na-radu-federacije-bosne-i-hercegovine.pdf]. Accessed 30 October 2020.
[3] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.4.1b

Is there an established agency responsible for the enforcement of biosafety legislation and regulations?

Yes = 1 , No = 0

Current Year Score: 1

The Labor Inspection Services of the Republic of Srpska and Federation of Bosnia and Herzegovina are agencies responsible for the enforcement of biosafety legislation and regulations. [1, 2] The Law on Safety at Work of the Republic of Srpska and the Law on Safety at Work of the Federation of Bosnia and Herzegovina regulate protection from biological substances which are used in the working environment, such as biological agents, or micro-organisms, including genetically modified cell cultures and endoparasites of human and animal origin, which can cause infection, allergy or poisoning. According to Article 58 of the Law on Safety at Work of the Republic of Srpska and Article 74 of the Law on Safety at Work of the Federation of Bosnia and Herzegovina, labor inspectorates are responsible for law enforcement, including biosafety measures. [3, 4] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, and it is not known if they contain information on this matter. [5]

[1] Republic Administration for Inspection Activities. "About Labor Inspection Service". [http://www.inspektorat.vladars.net/stranica/94/pregled]. Accessed 30 October 2020.
[2] Federal Department of Inspection Affairs. Labor Inspectorate. "Inspectorates and Organizational Units". [http://www.fuzip.gov.ba/stranica/33/pregled]. Accessed 30 October 2020.
[3] Republic of Srpska. 2008. "Law on Safety at Work (Zakon o zaštiti na radu, Sl. RS, br. 28/94)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mpb/PAO/Documents/Zakon%20o%20zastiti%20na%20radu.pdf]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. 2018. "Law on Safety at Work (Zakon o zaštiti na radu)". [https://www.paragraf.ba/nacrti-i-prijedlozi/prijedlog-zakona-o-zastiti-na-radu-federacije-bosne-i-hercegovine.pdf]. Accessed 30 October 2020.
[5] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.4.2 Biosafety training and practices

1.4.2a

Does the country require biosafety training, using a standardized, required approach, such as through a common curriculum or a trainthe-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina requires biosafety training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The Annual Work Plan for 2018 of the Republic Administration for Inspection, and the Annual Work Plan for 2019 of the Federal Department of Inspection Affairs, which contain a plan of activities (e.g. number of visits) in a calendar year, the budget, etc., also contain planned training. None of the training is related to biosafety. [1, 2] Websites of the Ministries of Health, Agriculture and Science, and Labor Inspectorate Services, as well as the Verification, Research, Training and Information Center (VERTIC) database do not have publicly available information about organized training. [3, 4, 5, 6, 7, 8, 9, 10, 11] Laws on Safety at Work of both entities state that the employer is obliged to train workers in health and safety at the start of employment, or moving to other jobs, when introducing new technology or new resources for work, as well as in changing work processes. However, there are no specific references to a standardized, required approach, such as a common curriculum or a train-the-trainer program. [12, 13] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, however, access to the reports is restricted, so it is not known if they contain information on this matter. [14]

[1] Republic Administration for Inspection Activities. "Annual Work Plan for 2018". [http://www.inspektorat.vladars.net/bundles/websitenews/admin-assets/plugins/tinymce/source/Planovi%20rada/Godisnji%20plan%20rada%202018,%20zadnja%20verzija,%2031.05.2018.pdf]. Accessed 30 October 2020.
[2] Federal Department of Inspection Affairs. "Annual Work Plan for 2019". [http://www.fuzip.gov.ba/bundles/websitenews/gallery/files/36/1551342498GODI%C5%A0NJI_PLAN_RADA_FUZIP_za_2019.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[9] Republic Administration for Inspection Activities. "About Labor Inspection Service". [http://www.inspektorat.vladars.net/stranica/94/pregled]. Accessed 30 October 2020.
[10] Federal Department of Inspection Affairs. Labor Inspectorate. "Reports". [http://www.fuzip.gov.ba/stranica/37/pregled]. Accessed 30 October 2020.
[11] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October

2020.
[12] Republic of Srpska. 2008. "Law on Safety at Work (Zakon o zaštiti na radu, Sl. RS, br. 28/94)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mpb/PAO/Documents/Zakon%20o%20zastiti%20na%20radu.pdf]. Accessed 30 October 2020.
[13] Federation of Bosnia and Herzegovina. 2018. "Law on Safety at Work (Zakon o zaštiti na radu)". [https://www.paragraf.ba/nacrti-i-prijedlozi/prijedlog-zakona-o-zastiti-na-radu-federacije-bosne-i-hercegovine.pdf]. Accessed 30 October 2020.
[14] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.5 DUAL-USE RESEARCH AND CULTURE OF RESPONSIBLE SCIENCE

1.5.1 Oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research

1.5.1a

Is there publicly available evidence that the country has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?
Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Bosnia and Herzegovina has conducted an assessment to determine whether there is ongoing research on especially dangerous pathogens, toxins, pathogens with pandemic potential, and/or other dual-use research. On the websites of the Ministries of Agriculture, Security, Health, Science, Institutes for Public Health and Verification, Research, Training and Information Center (VERTIC) database there is no information about an assessment to determine whether there is ongoing research on especially dangerous pathogens, toxins, pathogens with pandemic potential, and/or other dual-use research.[1, 2, 3, 4, 5, 6, 7, 8] In addition, Bosnia and Herzegovina does not have legislation that regulates dual-use research. Existing legislation, related to scientific research, such as the Law on Scientific Research and Technological Development of Republica Srpska, Law on Scientific Research of Sarajevo and Strategy of Scientific Research of Bosnia and Herzegovina, do not envisage any provisions related to dual-use research. [9, 10, 11] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [12]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[8] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina".

[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[9] Republic of Srpska. 2018. "Law on Scientific Research and Technological Development (Zakon o naucno istraživackoj djelatnosti i tehnološkom razvoju, Sl. glasnik RS, br. 6/2012, 33/2014 i 66/2018 i 84/2019)". [https://www.paragraf.ba/propisi/republika-srpska/zakon-o-naucnoistrazivackoj-djelatnosti-i-tehnoloskom-razvoju.html]. Accessed 30 October 2020.
[10] Canton Sarajevo. 2016. "Law on Scientific Research (Zakon o naucno istraživackom radu, SN KSA, br. 26 od 30.06.2016)". [http://www.unsa.ba/sites/default/files/dodatak/2017-10/zakon%20o%20naucno-istrazivackom%20radu%20n.pdf]. Accessed 30 October 2020.
[11] Academy of Science and Arts of Bosnia and Herzegovina. 2006. "Strategy of Scientific Research of Bosnia and Herzegovina (Strategija naucno-tehnološkog razvoja Bosne i Hercegivine)". [http://www.ruralextension.org/doc/Strategija%20naucno-tehnoloskog%20razvoja%20BiH%20(2006).pdf]. Accessed 30 October 2020.
[12] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.5.1b

Is there legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is no policy requiring oversight of dual-use research, such as research with especially dangerous pathogens, toxins, and/or pathogens with pandemic potential. Related documents, such as the Law on Scientific Research and Technological Development of Republica Srspka, Law on Scientific Research of Sarajevo and Strategy of Scientific Research of Bosnia and Herzegovina, do not envisage any provisions related to dual-use research and do not require oversight of such research, such as research with especially dangerous pathogens, toxins, and/or pathogens with pandemic potential. [1, 2, 3] In addition, there is no information related to dual-use research on the websites of the Ministry of Security and Ministries of Science and Agriculture or the Verification, Research, Training and Information Center (VERTIC) database. [4, 5, 6, 7, 8, 9] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [10]

[1] Republic of Srpska. 2018. "Law on Scientific Research and Technological Development (Zakon o naucno istraživackoj djelatnosti i tehnološkom razvoju, Sl. glasnik RS, br. 6/2012, 33/2014 i 66/2018)". [https://www.paragraf.ba/propisi/republika-srpska/zakon-o-naucnoistrazivackoj-djelatnosti-i-tehnoloskom-razvoju.html]. Accessed 30 October 2020.
[2] Canton Sarajevo. 2016. "Law on Scientific Research (Zakon o naucno istraživackom radu, SN KSA, br. 26 od 30.06.2016)". [http://www.unsa.ba/sites/default/files/dodatak/2017-10/zakon%20o%20naucno-istrazivackom%20radu%20n.pdf]. Accessed 30 October 2020.
[3] Academy of Science and Arts of Bosnia and Herzegovina. 2006. "Strategy of Scientific Research of Bosnia and Herzegovina (Strategija naucno-tehnološkog razvoja Bosne i Hercegivine)". [http://www.ruralextension.org/doc/Strategija%20naucno-tehnoloskog%20razvoja%20BiH%20(2006).pdf]. Accessed 30 October 2020.
[4] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/Default.aspx?langTag=bs-BA&template_id=103&pageIndex=1]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.

[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [https://fmon.gov.ba/]. Accessed 30 October 2020.
[9] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[10] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.5.1c

Is there an agency responsible for oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual-use research. Although the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina sets licensing conditions for those handling dual use materials, there is no mention of direct oversight of these agencies within the relevant legislation. [1] There is no information about an agency responsible for oversight of dual-use research on the websites of the Ministries of Agriculture, Security, Health and Science, as well as the Verification, Research, Training and Information Center (VERTIC) database. [2, 3, 4, 5, 6, 7, 8, 9] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [10]

[1] Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina. "Dual-use goods". [http://www.mvteo.gov.ba/Content/Read/roba-dvojne-namjene?lang=en]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[9] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.
[10] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-

ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.

1.5.2 Screening guidance for providers of genetic material

1.5.2a

Is there legislation and/or regulation requiring the screening of synthesized DNA (deoxyribonucleic acid) against lists of known pathogens and toxins before it is sold?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no public evidence of a legislation or policy addressing the screening of synthesized DNA before it is sold. The Ministries of Agriculture, Security, Health, Science and Transport have not issued regulations, policy or other guidelines regarding the sale of synthesized DNA. [1, 2, 3, 4, 5, 6, 7, 8, 9] The Law on Genetically Modified Organisms prescribes the procedure and conditions for limited use, cross-border transfer, deliberate introduction into the environment, and the placing on the market of genetically modified organisms and products consisting of, containing or derived from genetically modified organisms. However, it does not require the screening of synthesized DNA before it is sold. [10] The Laboratory for Human Genetics (LHG) was officially established by internal act of the Board of the Institute for Genetic Engineering and Biotechnology in 2004. Along with laboratories associated with the Institute, LHG performs research and expert activities in the field of molecular-genetic characterization of human material, but there are no requirements regarding the screening of synthesized DNA before it is sold. [11] Although Bosnia and Herzegovina has submitted Confidence Building Measures every year since 2016, access to the reports is restricted, so it is not known if they contain information on this matter. [12] The Verification, Research, Training and Information Center (VERTIC) database does not have additional information about legislation or policy addressing the screening of synthesized DNA before it is sold. [13]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Transport and Communication. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/msv/Pages/default.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Transport and Communication. [http://fmpik.gov.ba/bh/]. Accessed 30 October 2020.
[10] Parliament of Bosnia and Herzegovina. 2009. "Law on Genetically Modified Organisms (Zakon o genetski modificiranim organizmima)". [http://www.aarhus.ba/~aarhus/images/docs/bih/15%20Zakon%20o%20genetski%20modificiranim%20organizmima%20%2823-09%29.pdf]. Accessed 30 October 2020.
[11] Institute for Genetic Engineering and Biotechnology. [http://www.ingeb.unsa.ba/eng/o_ingebu_historijat.html].

Accessed 30 October 2020.
[12] United Nations Office at Geneva (UNOG). 2018. "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/bosnia-and-herzegovina]. Accessed 30 October 2020.
[13] Verification Research, Training and Information Center (VERTIC) database. "Bosnia and Herzegovina". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 30 October 2020.

1.6 IMMUNIZATION

1.6.1 Vaccination rates

1.6.1a

Immunization rate (measles/MCV2)

Immunization rate (measles/MCV2), 95% or greater = 2, 80-94.9% = 1, Less than 80%, or no data = 0

Current Year Score: 0

2019

World Health Organization

1.6.1b

Are official foot-and-mouth disease (FMD) vaccination figures for livestock publicly available through the OIE database?

Yes = 1 , No = 0

Current Year Score: 1

2020

OIE WAHIS database

Category 2: Early detection and reporting for epidemics of potential international concern

2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

2.1.1 Laboratory testing for detection of priority diseases

2.1.1a

Does the national laboratory system have the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests?

Evidence they can conduct 5 of the 10 core tests and these tests are named = 2, Evidence they can conduct 5 of the 10 core tests and the tests are not named = 1, No evidence they can conduct 5 of the 10 core tests = 0

Current Year Score: 2

The laboratory system in Bosnia and Herzegovina has the capacity to conduct diagnostic tests for at least 5 of the 10 World Health Organization (WHO)-defined core tests. Based on different WHO reports it can be concluded that Bosnia and Herzegovina has capacity to conduct diagnostic tests for the following: polymerase chain reaction (PCR) testing (influenza virus/flu), rapid diagnostic testing for plasmodium spp. (malaria), and microscopy for mycobacterium tuberculosis (tuberculosis/TB). [1, 2, 3] Based on the "Ordinance on objectives to reduce the presence of Salmonella enteritidis and salmonella typhimurium in laying chicken" and the document "Antimicrobial resistance in Salmonella enterica var. Enteritidis human isolates in Bosnia and Herzegovina", it can be concluded that Bosnia and Herzegovina has capacity to conduct bacterial culture diagnostic tests for the Salmonella enteritidis serotype Typhi (typhoid) [4, 5]. Based on the document "Testing Country Profile in 2015 - Bosnia and Herzegovina", issued by the Network of Low Prevalence Countries of Central and South East Europe, the country has capacity to conduct serology for HIV. [6] As per the Ministry of Civil Affairs of Bosnia and Herzegovina's Plan of Action to Sustain Polio-Free Status, the country has the capacity to conduct virus culture for poliovirus (polio). [7]The websites of the Ministries of Health and Agriculture and Institutes for Public Health do not provide data about capacity to conduct diagnostic tests for WHO-defined core tests and do not have information that the country has defined four core tests. [8, 9, 10, 11, 12, 13]

[1] World Health Organization (WHO). "Influenza Surveillance Country Profile". [http://www.euro.who.int/__data/assets/pdf_file/0003/272496/Country_profile_influenza_Bosnia-and-Herzegovina_final_ENG_new-layout.pdf?ua=1]. Accessed 30 October 2020.
[2] World Health Organization (WHO). 2002. "Epidemiological surveillance of malaria in countries of Central and Eastern Europe". [http://www.euro.who.int/__data/assets/pdf_file/0006/98781/E77302.pdf]. Accessed 30 October 2020.
[3] World Health Organization (WHO). 2013. "Review of the Tuberculosis Program in Bosnia and Herzegovina". [http://www.euro.who.int/__data/assets/pdf_file/0007/266515/Review-of-the-Tuberculosis-Programme-in-Bosnia-and-Herzegovina.pdf]. Accessed 30 October 2020.
[4] Council of Ministers. 2012. "Ordinance on objectives to reduce the presence of Salmonella enteritidis and salmonella typhimurium in laying chicken (Pravilnik o ciljevima za smanjenje prisustva bakterija vrsta Salmonella enteritidis i Salmonella typhimurium kod koka nosilja, ''Službeni glasnik BiH'', broj: 102/12)". [http://extwprlegs1.fao.org/docs/pdf/bih148510.pdf]. Accessed 30 October 2020.
[5] Clinical Microbiology and Infection. 2003. "Antimicrobial resistance in Salmonella enterica var. Enteritidis human isolates in Bosnia and Herzegovina". [https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X
[14] 63831-3/fulltext]. Accessed 30 October 2020.
[6] Network of Low Prevalence Countries of Central and South East Europe. "Testing Country Profile in 2015 - Bosnia and Herzegovina". [http://www.nelp-hiv.org/countries/ba]. Accessed 30 October 2020.
[7] Ministry of Civil Affairs of Bosnia and Herzegovina. Strategic Documents. "BiH Plan of Action to Sustain Polio-Free Status". "Action plan HIV Strategy 2011-2016". "B&H Pandemic Influenza Preparedness and Control plan". [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/Archive.aspx?pageIndex=1&langTag=en-US]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[10] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[11] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

[12] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[13] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.1.1b

Is there a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing?

Yes, there is evidence of a plan, and it includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing = 2, Yes, there is evidence of a plan, but there is insufficient evidence that it includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing = 1, No evidence of a plan = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. However, Bosnia and Herzegovina has Pandemic Influenza Preparedness and Control Plan.

The Pandemic Influenza Preparedness and Control Plan has been developed in line with the guidelines provided in the World Health Organization (WHO) Pandemic Influenza Preparedness Global Plan. It contains all essential elements which can ensure coordinated efforts to fight against pandemic influenza in Bosnia and Herzegovina, but also in the neighboring countries and broader. Global Plan sets forth range of recommended measures to be implemented in a country before and during the pandemic. According to the Plan, each country is responsible to implement surveillance and virology tests within early detection of pandemic influenza trigger. If the country identifies trigger, which suggest new virus transmission, it is expected to begin immediately investigation (with concurrent notification of WHO - without waiting for confirmation). [1]

Websites of the Ministries of Health, Agriculture, Security and Institutes for Public Health do not have a reference to a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. [2, 3, 4, 5, 6, 7, 8] In addition, the Laws on Protection of Population from Infectious Diseases do not have a reference for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. [9, 10]. These sources do not provide evidence on plan specific for Covid-19.

[1] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan". [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/publikacije/default.aspx?id=7276&langTag=en-US]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[9] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-

Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[10] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Sluzbene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.

2.1.2 Laboratory quality systems

2.1.2a

Is there a national laboratory that serves as a reference facility which is accredited (e.g., International Organization for Standardization [ISO] 15189:2003, U.S. Clinical Laboratory Improvement Amendments [CLIA])?

Yes = 1 , No = 0

Current Year Score: 1

The Institute for Public Health of Republic of Srpska is a reference facility accredited in line with BAS EN ISO/IEC 1702 (General requirements for the competence of testing and calibration laboratories) and Institute of Public Health of Federation of Bosnia and Herzegovina is a reference facility accredited in line with BAS EN ISO/IEC 17025 (General requirements for the competence of testing and calibration laboratories). Institutes are further accredited with appropriate ISO standards for every type of test they are doing). Both Institutes are accredited by Institute for Accreditation of Bosnia and Herzegovina. The Institute for Public Health of Republic of Srpska is a reference facility responsible for surveillance of infectious diseases and organization and implementation of epidemiological tests and control of individual cases of infectious diseases, and active and field testing of priority infectious diseases: polio, tetanus, smallpox, mumps, rubella, tuberculosis, bites by rabid or rabies-suspicious animals, viral hemorrhagic fevers, etc. Website of the Institute for Public Health of Federation of Bosnia and Herzegovina does not have information about specific diseases. However, the Institute is responsible for the prevention, control and reduction of infectious diseases, as well as surveillance, early detection and response to quarantine and other diseases of special public health importance. [1, 2, 3, 4, 5]

[1] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/index.php?view=clanak&id=20]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[3] Institute for Accreditation of Bosnia and Herzegovina. "List of accredited bodies". [http://www.bata.gov.ba/Akreditirana_tijela/Spisak-akreditiranih-tijela.pdf]. Accessed 30 October 2020
[4] Institute for Accreditation of Bosnia and Herzegovina. "Accreditation of the Institute of Public Health of Republic of Srpska". [http://bata.gov.ba/Akreditirana_tijela/Dodaci/LI/LI-40-01.pdf]. Accessed 30 October 2020.
[5] Institute for Accreditation of Bosnia and Herzegovina. "Accreditation of the Institute of Public Health of Federation of Bosnia and Herzegovina". [http://www.bata.gov.ba/Akreditirana_tijela/Dodaci/LI/LI-96-01.pdf]. Accessed 30 October 2020.

2.1.2b

Is there a national laboratory that serves as a reference facility which is subject to external quality assurance review?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina has laboratories that serve as a reference facility but which are not subject to external quality assurance review. The Institute for Public Health of the Republic of Srpska as a reference facility is accredited in line with BAS

EN ISO/IEC 1702 (General requirements for the competence of testing and calibration laboratories), and Institute of Public Health of the Federation of Bosnia and Herzegovina as a reference facility is accredited in line with BAS EN ISO/IEC 17025 (General requirements for the competence of testing and calibration laboratories). Both Institutes are accredited by the Institute for Accreditation of Bosnia and Herzegovina. The Institute for Public Health of Republic of Srpska is a reference facility responsible for surveillance of infectious diseases and organization and implementation of epidemiological tests and control of individual cases of infectious diseases, and active and field testing of priority infectious diseases: polio, tetanus, smallpox, mumps, rubella, tuberculosis, bites by rabid or rabies-suspicious animals, viral hemorrhagic fevers, etc. Website of the Institute for Public Health of Federation of Bosnia and Herzegovina does not have information about specific diseases. However, the Institute is responsible for the prevention, control and reduction of infectious diseases, as well as surveillance, early detection and response to quarantine and other diseases of special public health importance. [1, 2, 3] On the websites of the Ministries of Health and Institutes for Public Health there are no additional information about external quality assurance review. [4, 5, 6, 7]

[1] Institute for Accreditation of Bosnia and Herzegovina. "List of accredited bodies". [http://www.bata.gov.ba/Akreditirana_tijela/Spisak-akreditiranih-tijela.pdf]. Accessed 30 October 2020.
[2] Institute for Accreditation of Bosnia and Herzegovina. "Accreditation of the Institute of Public Health of Republic of Srpska". [http://bata.gov.ba/Akreditirana_tijela/Dodaci/LI/LI-40-01.pdf]. Accessed 30 October 2020.
[3] Institute for Accreditation of Bosnia and Herzegovina. "Accreditation of the Institute of Public Health of Federation of Bosnia and Herzegovina". [http://www.bata.gov.ba/Akreditirana_tijela/Dodaci/LI/LI-96-01.pdf]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/index.php?view=clanak&id=20]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.2 LABORATORY SUPPLY CHAINS

2.2.1 Specimen referral and transport system

2.2.1a

Is there a nationwide specimen transport system?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is no evidence of a functioning nationwide specimen transport system. There is no publicly available evidence of such a system on the websites of the Ministries of Health and Agriculture, or the Institutes of Public Health and Veterinary Office. [1, 2, 3, 4, 5, 6, 7, 8] However, according to the World Health Organization's 2013 Review of the Tuberculosis Program in Bosnia and Herzegovina, there is a basic specimen referral system in place using vehicle transport, although it is noted as not functioning fully. Vehicles have been procured for public health institutes, but the high cost of fuel, maintenance and salaries means that the system does not function well. The report notes that in both the Federation of Bosnia and Herzegovina and the Republic of Srpska, the national reference laboratories sometimes receive tuberculosis samples only once every two weeks. [9]

[1] Republic of Srpska. Ministry of Health and Social Protection. "List of Laws and By-laws". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Pages/Javno_zdravstvo.aspx]. Accessed 30 October 2020.

[2] Federation of Bosnia and Herzegovina. Ministry of Health. "List of Laws and By-laws". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/lista-zakonskih-i-podzakonskih-akata]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Science and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[9] World Health Organization (WHO). 2013. "Review of the Tuberculosis Program in Bosnia and Herzegovina". [http://www.euro.who.int/__data/assets/pdf_file/0007/266515/Review-of-the-Tuberculosis-Programme-in-Bosnia-and-Herzegovina.pdf]. Accessed 30 October 2020.

2.2.2 Laboratory cooperation and coordination

2.2.2a

Is there a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak?

Yes = 2 , Yes, but there is evidence of gaps in implementation = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina does not have a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. The Laws on Protection of Population from Infectious Diseases and Laws on Health Protection do not have information about a plan to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. [1, 2, 3, 4] Websites of the Ministries of Health, Agriculture, Security and Institutes for Public Health do not have a reference to a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. [5, 6, 7, 8, 9, 10, 11]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Welfare. 2009. "Law on Health Protection (Zakon o zdravstvenoj zaštiti, "Sl. glasnik RS", br. 106/2009 i 44/2015)". [https://www.paragraf.ba/propisi/republika-srpska/zakon-o-zdravstvenoj-zastiti.html]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. 2010. "Law on the Health Protection (Zakon o zdravstvenoj zaštiti, „Službene novine Federacije BiH, br. 46/10)". [https://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zdravstvenoj-zastiti]. Accessed 30 October 2020.

[5] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[10] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[11] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.3 REAL-TIME SURVEILLANCE AND REPORTING

2.3.1 Indicator and event-based surveillance and reporting systems

2.3.1a

Is there evidence that the country is conducting ongoing event-based surveillance and analysis for infectious disease?

Yes, there is evidence of ongoing event-based surveillance and evidence that the data is being analyzed on a daily basis = 2, Yes, there is evidence of ongoing event-based surveillance, but no evidence that the data are being analyzed on a daily basis = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina conducts ongoing event-based surveillance and analysis for infectious disease. The Ministry of Security of Bosnia and Herzegovina is responsible for overall coordination of activities related to civil protection and harmonization of plans for actions at the entity level. The system of protection and rescue of people and material goods from natural or other disasters is further organized at the level of the entities and Brcko District through the Directorates of Civil Protection. However, based on the websites of these institutions, it cannot be confirmed whether any of these institutions is conducting ongoing event-based surveillance (EBS) and analysis for infectious disease. [1, 2, 3, 4] The Law on Direction for Coordination of Policies Bodies and Agencies for Support to Police Structure of Bosnia and Herzegovina envisages the existence of EBS within the Directorate for Coordination of Police Affairs. However, there are no further provisions in the Law which would confirm that this Directorate is dealing with emergency operations as well. [5] In October 2017, the Bosnia and Herzegovina (BiH) Emergency Operations Center was officially opened, but its responsibilities are not related to EBS. The websites of the health, agriculture and interior ministries and the institutes for public health do not have information about ongoing event-based surveillance and analysis for infectious disease. [6, 7, 8, 9, 10, 11, 12, 13]

[1] Ministry of Security of Bosnia and Herzegovina. "Organizational Structure". [http://www.msb.gov.ba/onama/struktura/default.aspx?id=3057&langTag=hr-HR]. Accessed 30 October 2020.
[2] Republic of Srpska. Directorate for Civil Protection. "Organizational Structure". [http://www.ruczrs.net/?page_id=100]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. "Organizational Structure". [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[4] Brcko District. Sub-Unit for Rescue and Protection. [http://www.bdcentral.net/index.php/ba/odjeljenja-vlade-brko-dsitrikta-bih/javna-bezbjednost/zatita-i-spaavanje]. Accessed 30 October 2020.
[5] Ministry of Security. 2008. "Law on Direction for Coordination of Policies Bodies and Agencies for Support to Police Structure of Bosnia and Herzegovina (Zakon o direkciji za koordinaciju policijskih tijela i Agencijama za podršku policijskoj

strukturi Bosne i Hercegovine, Sl. BiH, br. 36/08)".
[http://www.msb.gov.ba/zakoni/zakoni/default.aspx?id=8278&langTag=bs-BA]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[10] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[11] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.
[12] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[13] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.3.1b

Is there publicly available evidence that the country reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Bosnia and Herzegovina has reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years. On 30th January 2020 the WHO Director-General declared the novel coronavirus outbreak a public health emergency of international concern (PHEIC), WHO's highest level of alarm. [1] In March 2020 Bosnia and Herzegovina reported the first case of Covid-19 and the outbreak is still ongoing. [2, 3] There is no further information on the website of the Ministry of Health. [4]

[1] World Health Organization (WHO). "Timeline: WHO's Covid-19 response".
[https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline/] Accessed 23 July 2020
[2] World Health Organization (WHO). "Health Emergency Dashboard. Bosnia and Herzegovina".
[https://extranet.who.int/publicemergency] Accessed 23 July 2020
[3] Radio Slobodna Evropa. "The first case of the coronavirus in Bosnia and Herzegovina, an infected father and child".
[https://www.slobodnaevropa.org/a/30469735.html] Accessed 23 July 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 23 July 2020.

2.3.2 Interoperable, interconnected, electronic real-time reporting systems

2.3.2a

Does the government operate an electronic reporting surveillance system at both the national and the sub-national level?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no evidence that an electronic reporting surveillance system is operational at both the national and sub-national levels. The health system in the country is organized at the sub-national level across two entities: the Republic of Srpska and the Federation of Bosnia and Herzegovina. On the websites of the Ministries of Health and Institutes for Public Health, there is no information about a single, national electronic reporting surveillance system. [1, 2, 3,

4] However, there is evidence that an electronic system exists at the level of entities, both in Federation of Bosnia and Herzegovina and Republic of Srpska. In the Federation of Bosnia and Herzegovina development of the information system was enabled by a loan from the World Bank within the project "Basic Hospital Services". It was developed in 2002 it was installed in municipal and cantonal health insurance institutes, federal Institute of Health Insurance, cantonal and Federal Ministries of Health and cantonal and Federal Institute of Public Health. The Health Insurance Fund of the Republic of Srpska promoted in August 2020 the Integrated Health Information System and issued the first electronic card for insured persons. IZIS will start to be applied in the Gradiška Hospital, and in the health centers in Gradiška, Srbac and Kozarska Dubica. [5, 6]

[1] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[3] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Health Insurance and Reinsurance Institute. 2015. "Information system". [http://www.zzofbih.ba/bs/clanak/informacioni-sistem/209]. Accessed 30 October 2020.
[6] Paragraf. 2020. "Health Insurance Fund presents integrated health information system of the Republic of Srpska: The first electronic card to replace health books has been handed over". [https://www.paragraf.ba/dnevne-vijesti/14082020/14082020-vijest2.html]. Accessed 30 October 2020.

2.3.2b

Does the electronic reporting surveillance system collect ongoing or real-time laboratory data?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no evidence that an electronic reporting surveillance system exists that collects ongoing/real-time laboratory data. The health system in the country is organized at the sub-national level across two entities: the Republic of Srpska and the Federation of Bosnia and Herzegovina. On the websites of the Ministries of Health and Institutes for Public Health there is no information about an electronic reporting surveillance system which integrates real-time laboratory data. [1, 2, 3, 4] A health information system, which usually also includes an electronic reporting surveillance system, exists at the level of entities, both in Federation of Bosnia and Herzegovina and Republic of Srpska. In Federation of Bosnia and Herzegovina development of the information system was enabled by a loan from the World Bank within the project "Basic Hospital Services". It was developed in 2002 it was installed in municipal and cantonal health insurance institutes, federal Institute of Health Insurance, cantonal and Federal Ministries of Health and cantonal and Federal Institute of Public Health. The Health Insurance Fund of the Republic of Srpska promoted in August 2020 the Integrated Health Information System and issued the first electronic card for insured persons. The value of the project is around 26 million KM and its goal is more efficient health care services. IZIS will start to be applied in the Gradiška Hospital, and in the health centers in Gradiška, Srbac and Kozarska Dubica. [5, 6]

[1] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[3] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Health Insurance and Reinsurance Institute. 2015. "Information system". [http://www.zzofbih.ba/bs/clanak/informacioni-sistem/209]. Accessed 30 October 2020.
[6] Paragraf. 2020. "Health Insurance Fund presents integrated health information system of the Republic of Srpska: The first

electronic card to replace health books has been handed over". [https://www.paragraf.ba/dnevne-vijesti/14082020/14082020-vijest2.html]. Accessed 30 October 2020.

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

Electronic health records are commonly in use = 2, Electronic health records are not commonly in use, but there is evidence they are used = 1, No evidence electronic health records are in use = 0

Current Year Score: 1

Electronic health records (EHRs) are not commonly in use, but there is evidence they are used in Bosnia and Herzegovina.

The health system is organized at the sub-national level across two entities: the Republic of Srpska and the Federation of Bosnia and Herzegovina. The Health Information System, which also includes EHRs, is introduced in the Federation of Bosnia and Herzegovina. [1] EHRs exist in the whole territory of the Federation of Bosnia and Herzegovina, but there are issues in its implementation in some hospitals, as well as in the maintenance of the health information system and other equipment [2].

The Integrated Health Information System that includes EHR was introduced in the Republic of Srpska in August 2020, but so far, the system has been in the Gradiška Hospital, and health centers Gradiška, Srbac and Kozarska Dubica only, which cannot be considered as evidence of common use in the Republic of Srpska. [3] In Bosnia and Herzegovina there is also a portal called NajDoktor which, through the "eKarton" option, offers its users the opportunity of creating an electronic health card free of charge, with the entry, storage and updating of health data in one place. According to NajDoktor, the eKarton option was created as an alternative during the slow implementation of EHRs. [4] Websites of the Ministries of Health do not have additional information about the EHRs. [5, 6]

[1] Federation of Bosnia and Herzegovina. Health Insurance and Reinsurance Institute. "Information system". [http://www.zzofbih.ba/bs/clanak/informacioni-sistem/209]. Accessed 30 October 2020.
[2] Center for Research Journalism. 2018. "Health millions, patients in agony". [https://www.cin.ba/zdravstvu-milioni-pacijenti-na-mukama/]. Accessed 30 October 2020.
[3] Paragraf. 14 August 2020. "Health Insurance Fund presents integrated health information system of the Republic of Srpska: The first electronic card to replace health books has been handed over". [https://www.paragraf.ba/dnevne-vijesti/14082020/14082020-vijest2.html]. Accessed 30 October 2020.
[4] NajDoktor portal. "Electronic Health Record". [https://www.mojdoktor.ba/vijesti/03022015/ekarton-prvi-elektronski-zdravstveni-karton-u-bih]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

2.4.1b

Does the national public health system have access to electronic health records of individuals in their country?

Yes = 1 , No = 0

Current Year Score: 0

The public health system in Bosnia and Herzegovina does not have access to electronic health records (EHR) of individuals. The health system is organized at the sub-national level across two entities: the Republic of Srpska and the Federation of Bosnia and Herzegovina. The Health Information System, which also includes EHR, is introduced in the Federation of Bosnia and Herzegovina. [1] EHRs exist in the whole territory of the Federation of Bosnia and Herzegovina, but there are issues in its implementation in some hospitals, as well as in the maintenance of the health information system and other equipment [2]. The Integrated Health Information System that includes EHR is introduced in the Republic of Srpska in August 2020, but so far, the system has been in the Gradiška Hospital, and health centers Gradiška, Srbac and Kozarska Dubica, which cannot be considered as a common use in the Republic of Srpska. [3] In Bosnia and Herzegovina there is also a portal called NajDoktor which, through the "eKarton" option, offers its users the opportunity of creating an electronic health card free of charge, with the entry, storage and updating of health data in one place. According to NajDoktor, the eKarton option was created as an alternative during the slow implementation of EHR. [4] Websites of the Ministries of Health do not have additional information about the EHRs of individuals. [5, 6]

[1] Federation of Bosnia and Herzegovina. Health Insurance and Reinsurance Institute. "Information system". [http://www.zzofbih.ba/bs/clanak/informacioni-sistem/209]. Accessed 30 October 2020.
[2] Center for Research Journalism. 2018. "Health millions, patients in agony". [https://www.cin.ba/zdravstvu-milioni-pacijenti-na-mukama/]. Accessed 30 October 2020.
[3] Paragraf. 14 Augut 2020. "Health Insurance Fund presents integrated health information system of the Republic of Srpska: The first electronic card to replace health books has been handed over". [https://www.paragraf.ba/dnevne-vijesti/14082020/14082020-vijest2.html]. Accessed 30 October 2020.
[4] NajDoktor portal. "Electronic Health Record". [https://www.mojdoktor.ba/vijesti/03022015/ekarton-prvi-elektronski-zdravstveni-karton-u-bih]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

2.4.1c

Are there data standards to ensure data is comparable (e.g., ISO standards)?

Yes = 1 , No = 0

Current Year Score: 0

The public health system in Bosnia and Herzegovina does not have access to electronic health records (EHR) of individuals which have data standards to ensure data is comparable. The health system is organized at the sub-national level across two entities: the Republic of Srpska and the Federation of Bosnia and Herzegovina. A Health Information System, which also includes EHRs, has been introduced in the Federation of Bosnia and Herzegovina. [1] EHR exist in the whole territory of the Federation of Bosnia and Herzegovina, but there are issues in its implementation in some hospitals, as well as in the maintenance of the health information system and other equipment [2].An Integrated Health Information System that includes EHR was introduced in the Republic of Srpska in August 2020, but so far the system has been in the Gradiška Hospital, and health centers Gradiška, Srbac and Kozarska Dubica only, which cannot be considered as a common use in the Republic of Srpska. [3] Websites of the Ministries of Health do not have additional information about the EHRs of individuals and data standards. [4, 5]

[1] Federation of Bosnia and Herzegovina. Health Insurance and Reinsurance Institute. Information system m. [http://www.zzofbih.ba/bs/clanak/informacioni-sistem/209]. Accessed 30 October 2020.

[2] Center for Research Journalism. 2018. "Health millions, patients in agony". [https://www.cin.ba/zdravstvu-milioni-pacijenti-na-mukama/]. Accessed 30 October 2020.
[3] Paragraf. 14 August 2020. "Health Insurance Fund presents integrated health information system of the Republic of Srpska: The first electronic card to replace health books has been handed over". [https://www.paragraf.ba/dnevne-vijesti/14082020/14082020-vijest2.html]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

2.4.2 Data integration between human, animal, and environmental health sectors

2.4.2a

Is there evidence of established mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data (e.g., through mosquito surveillance, brucellosis surveillance)?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina, there is evidence of established mechanisms at the relevant ministries responsible for animal, human and wildlife surveillance to share data. Data sharing between different ministries/agencies is regulated by Article 3 of the Ordinance on the Manner of Monitoring Zoonoses and Zoonoses Causes, according to which "the competent authorities guarantee the establishment of effective and lasting cooperation based on the exchange of general and specific data for the purpose of the implementation of this Ordinance. The authorities involved in this cooperation are as follows: a) the competent authority for animal health legislation; b) the competent authority for legislation on human health; c) the competent authority for legislation on animal feed; d) the competent authority for food hygiene legislation; e) other authorities and competent organizations." Mechanism of cooperation is ensured through a Commission for monitoring of zoonosis. [1]

[1] Council of Ministers of Bosnia and Herzegovina. 2010. "Ordinance on surveillance of zoonosis and causes of zoonosis (Pravilnik o nacinu pracenja zoonoza i uzrocnika zoonoza, Sl. gl. BiH, broj: 46/10, 96/13)". [http://extwprlegs1.fao.org/docs/pdf/bih148675.pdf]. Accessed 30 October 2020.

2.4.3 Transparency of surveillance data

2.4.3a

Does the country make de-identified health surveillance data on infectious diseases publicly available via reports (or other format) on government websites (such as the Ministry of Health, Ministry of Agriculture, or similar)?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina makes de-identified health surveillance data on disease outbreaks publicly available via reports (or other format) on government websites. The Institute of Public Health of the Republic of Srpska notifies on a weekly basis situation concerning flu in the Republic of Srpska. However, such information do not exist on the website of the Institute for Public Health of the Federation of Bosnia and Herzegovina. [1, 2] Institutes for Public Health of both entities make de-identified health surveillance data on Covid-19 on their websites. [3, 4] The Ministries of Health of both entities in Bosnia and Herzegovina do not have information about health surveillance data on disease outbreaks, except

Covid-19. [5, 6]

[1] Institute of Public Health of Republic of Srpska. 2018. "Second case of the Western Nile fever 3.9.2018". [http://www.phi.rs.ba/index.php?view=clanak&id=394]. Accessed 30 October 2020.
[2] Institute of Public Health of Federation of Bosnia and Herzegovina. 2018. "Fever of the Western Nile - notification". [http://www.zzjzfbih.ba/groznica-zapadnog-nila-obavijest/]. Accessed 30 October 2020.
[3] Institute of Public Health of Republic of Srpska. "Covid-19". [https://www.phi.rs.ba/index.php?view=kategorija&id=45]. Accessed 30 October 2020.
[4] Institute of Public Health of Federation of Bosnia and Herzegovina. "Covid-19". [https://covid-19.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. "News". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/media/vijesti/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. "News". [http://www.fmoh.gov.ba/index.php/novosti-iz-ministarstva?start=15]. Accessed 30 October 2020.

2.4.3b

Does the country make de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available via daily reports (or other formats) on government websites (such as the Ministry of Health, or similar)?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina makes de-identified Covid-19 surveillance data (including details such as daily case count, mortality rate, etc.) available via daily reports (or other formats) on government websites (such as the Ministry of Health, or similar). These information are available on the website of the Institutes for Public Health of Republic of Srpska and Federation of Bosnia and Herzegovina on a daily basis. [1, 2]

[1] Institute of Public Health of Republic of Srpska. "Covid-19". [https://www.phi.rs.ba/index.php?view=kategorija&id=45]. Accessed 30 October 2020.
[2] Institute of Public Health of Federation of Bosnia and Herzegovina. "Covid-19". [https://covid-19.ba/]. Accessed 30 October 2020.

2.4.4 Ethical considerations during surveillance

2.4.4a

Is there legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina there is a legal framework that safeguards the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities. According to Article 27 of the Law on Health Protection of the Federation of Bosnia, data confidentiality is guaranteed to all patients ("Patients, in the sense of this law, are considered to be any person, sick or healthy, insured or uninsured, who asks or receives a particular measure, or health service for the purpose of preserving and improving health, preventing illness, treatment or health care, and rehabilitation"). [1] According to Article 30 of the Law on Health Protection of the Republic of Srpska, "The patient is entitled to the

protection of his privacy during the conduct of diagnostic tests, visits to specialists and medical-surgical treatment as a whole." [2]

[1] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Health Protection of Federation of Bosnia (Zakon o zdravstvenoj zaštiti, Sl N FBiH, broj 46/10)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/zakon_o_zdravstvenoj_zastiti_46-10.pdf]. Accessed 30 October 2020.
[2] National Parliament of Republic of Srpska. 2015. "Law on Health Protection (Zakon o zdravstvenoj zaštiti, Sl. RS, br. 106/09, 44/15)". [https://www.zdravstvo-srpske.org/propisi/zakoni.html]. Accessed 30 October 2020.

2.4.4b

Is there legislation and/or regulations safeguarding the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, include mention of protections from cyber attacks (e.g., ransomware)?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no legal framework that safeguards the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, including protections from cyber attacks. In Bosnia and Herzegovina, secrecy of data and protection of patient privacy is regulated by the Laws on Health Protection at the sub-national level. According to Article 27 of the Law on Health Protection of the Federation of Bosnia, secrecy of data is guaranteed to all patients ("Patients, in the sense of this law, are considered to be any person, sick or healthy, insured or uninsured, who asks or receives a particular measure, or health service for the purpose of preserving and improving health, preventing illness, treatment or health care, and rehabilitation"). According to Article 30 of the Law on Health Protection of the Republic of Srpska, "The patient is entitled to the protection of his privacy during the conduct of diagnostic tests, visits to specialists and medical-surgical treatment as a whole." However, these laws do not mention any protections from cyber attacks. [1, 2] In addition, in Bosnia and Herzegovina there is a law on the protection of personal data, although it contains no references to protections from cyber attacks. [3] Websites of the ministries of health do not have additional information about safeguarding the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, including protections from cyber attacks. [4, 5]

[1] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Health Protection of Federation of Bosnia (Zakon o zdravstvenoj zaštiti, Sl N FBiH, broj 46/10)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/zakon_o_zdravstvenoj_zastiti_46-10.pdf]. Accessed 30 October 2020.
[2] National Parliament of Republic of Srpska. 2015. "Law on Health Protection (Zakon o zdravstvenoj zaštiti, Sl. RS, br. 106/09, 44/15)". [https://www.zdravstvo-srpske.org/propisi/zakoni.html]. Accessed 30 October 2020.
[3] Parliament of Bosnia and Herzegovina. 2011. "Law on Protection of Personal Data (Zakon o zaštiti licnih podataka, Sl. gl. BiH, br. br. 49/2006, 76/2011 i 89/2011 - ispr.)". [https://www.paragraf.ba/propisi/bih/zakon-o-zastiti-licnih-podataka.html]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. "News". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/media/vijesti/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. "News". [http://www.fmoh.gov.ba/index.php/novosti-iz-ministarstva?start=15]. Accessed 30 October 2020.

2.4.5 International data sharing

2.4.5a

Has the government made a commitment via public statements, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region?

Yes, commitments have been made to share data for more than one disease = 2, Yes, commitments have been made to share data only for one disease = 1, No = 0

Current Year Score: 0

There is insufficient evidence that Bosnia and Herzegovina has made a commitment via public statements, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region for one or more diseases.

National arrangements on how to receive and deliver international assistance is regulated by the Framework Law on Protection and Rescue of People and Material Goods against Natural or other Disasters in Bosnia and Herzegovina, Articles 5-10. According to Article 5 of the Law, international cooperation also includes exchange of information and data with other countries related to rescue and protection issues. However, the type of information/data is not specified. [1]

Bosnia and Herzegovina has signed agreements on cooperation in protection and rescue in cases of natural or other disasters with the following neighboring countries: Slovenia, Serbia, Croatia, Former Yugoslav Republic of Macedonia and Montenegro. These agreements are related to cooperation in the field of protection from natural and civilizational disasters, including public health emergencies, as it is presented in one of the agreements signed between Bosnia and Herzegovina and Serbia. [2, 3] However, exchange of surveillance data is not mentioned.

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods against Natural or other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljidi i materijalnih dobara od prirodnih ili drugih nesreca u Bosni i Hercegovini, Sl. BiH, br. 50/08)". [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] European Commission. Civil Protection. "Bosnia and Herzegovina - Country profile". [https://ec.europa.eu/echo/files/civil_protection/vademecum/menu/2.html]. Accessed 30 October 2020.
[3] Council of Ministers. 2010. "Agreement between the Government of the Republic of Serbia and Council of Ministers of Bosnia and Herzegovina about cooperation related to protection from natural and other disasters (Sporazum izmedju Vlade Republike Srbije i Saveta ministara Bosne i Hercegovine o saradnji u zaštiti od prirodnih i drugih katastrofa)". [http://www.parlament.gov.rs/upload/archive/files/lat/pdf/predlozi_zakona/3509-17%20-%20Lat.pdf]. Accessed 30 October 2020.

2.5 CASE-BASED INVESTIGATION

2.5.1 Case investigation and contact tracing

2.5.1a

Is there a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency?

Yes, there is evidence that the national government supports sub-national systems to prepare for future public health emergencies = 2, Yes, there is evidence that the national government supports sub-national systems, but only in response to active public health emergencies = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency.

Activities in the field of public health in Bosnia and Herzegovina are performed at the level of two entities, Federation of Bosnia and Herzegovina and Republic of Srpska. One of the special measures to protect the population from infectious diseases are, defined in the articles 41 and 57 of the Laws on Protection of Population from Infectious Diseases is early detection of sources, reservoirs and routes of transmission. However, there are no specific provisions in the Law how to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency [1, 2]. Websites of the ministries of health and institutes for public health do not have further information about contact tracing in the event of a public health emergency. [3, 4, 5, 6]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, "Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.5.1b

Does the country provide wraparound services to enable infected people and their contacts to self-isolate or quarantine as recommended, particularly economic support (paycheck, job security) and medical attention?

Yes, both economic support and medical attention are provided = 2, Yes, but only economic support or medical attention is provided = 1, No = 0

Current Year Score: 0

There is insufficient evidence that Bosnia and Herzegovina provides wraparound services to enable infected people and their contacts to self-isolate or quarantine as recommended, particularly economic support (paycheck, job security) and medical attention. While employed persons are subject to certain forms of support under existing regulations, it is not clear how the rest of the population is dealt with.

In the Republic of Srpska, one of the special measures to protect the population from infectious diseases defined in article 27 of the Law on Protection of Population from Infectious Diseases is health surveillance and quarantine. According to the same article, employees who are subject to a quarantine measure are entitled to appropriate compensation for the time spent in quarantine, in accordance with the law. According to the same article, health supervision over the persons in quarantine is performed by the competent institute or institute for public health, as well as the medical team that is in quarantine, and security is performed by the administrative body in charge of internal affairs. [1]

In the Federation of Bosnia and Herzegovina, one of the special measures to protect the population from infectious diseases defined in article 46 of the Law on Protection of Population from Infectious Diseases is health surveillance and quarantine. According to the same article, "costs of the quarantine are borne on the budget of the Federation of Bosnia and Herzegovina". According to article 42 of the Law on Health Insurance, employees are entitled to appropriate compensation in case of temporary incapacity to work caused by illness. [2, 3] Websites of the ministries of health, economy and institutes for public health do not have information about wraparound services. [4, 5, 6, 7]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. 2011. "Law on Health Insurance (Zakon o zdravstvenom osiguranju ("Službene novine Federacije BiH", br. 30/97, 7/02, 70/08 i 48/11)". [https://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zdravstvenom-osiguranju]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

2.5.1c

Does the country make de-identified data on contact tracing efforts for COVID-19 (including the percentage of new cases from identified contacts) available via daily reports (or other format) on government websites (such as the Ministry of Health, or similar)?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina does not make de-identified data on contact tracing efforts for Covid-19 (including the percentage of new cases from identified contacts) available via daily reports (or other format) on government websites. Websites of the Institutes for Public Health provide the latest information related to Covid-19 in the Republic of Srpska and Federation of Bosnia and Herzegovina. These reports include information such as number of people tested, number of people infected and people cured, etc. However, these sources do not make de-identified data on contact tracing. [1, 2]

[1] Institute of Public Health of Republic of Srpska. "Covid-19". [https://www.phi.rs.ba/index.php?view=kategorija&id=45]. Accessed 30 October 2020.
[2] Institute of Public Health of Federation of Bosnia and Herzegovina. "Covid-19". [https://covid-19.ba/]. Accessed 30 October 2020.

2.5.2 Point of entry management

2.5.2a

Is there a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency?

Yes, plan(s)/agreement(s) are in place to prepare for future public health emergencies = 2, Yes, but plan(s)/agreement(s) are in place only in response to active public health emergencies = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency.

Articles 11 and 17 of the Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina define coordination between different bodies related to emergency situations. However, these provisions are not related to cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency. [1]

Furthermore, Law on Protection and Rescue in Emergency Situations of Republic of Srpska and Law on Protection and Rescue from Natural and Other Disasters of the Federation of Bosnia and Herzegovina do not regulate these issues. [2, 3] Websites of the ministries of health and ministries of interior do not have further information about a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency. [4, 5, 6, 7]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesre?a u BiH, PSBiH broj: 198/08)." [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)" [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. " Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.

2.6 EPIDEMIOLOGY WORKFORCE

2.6.1 Applied epidemiology training program, such as the field epidemiology training program, for public health professionals and veterinarians (e.g., Field Epidemiology Training Program [FETP] and Field Epidemiology Training Program for Veterinarians [FETPV])

2.6.1a

Does the country meet one of the following criteria?

- Applied epidemiology training program (such as FETP) is available in country

- Resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP)

Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is insufficient evidence that applied epidemiology training programs (such as the Field Epidemiology Training Program (FETP)) are available. Neither is there evidence that Bosnia and Herzegovina provides resources to send citizens to another country to participate in applied epidemiology training programs (such as FETP). Based on the analysis of different training programs provided or organized by the Institutes and Ministries of Public Health, it cannot be confirmed that an applied epidemiology training program (such as FETP) is available in Bosnia and Herzegovina. [1, 2, 3, 4] Furthermore, Bosnia and Herzegovina is not on the list of countries that participated in training programs provided by CDC and Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). [5] Based on available information from the budget of two entities for 2019 and 2020, it is not possible to determine whether resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs. However, there is evidence of training organized abroad (e.g. EpiSouth) which could potentially include funds for applied epidemiology training in other countries. [6] EpiSouth Plus receives funding from the European Union DG-SANCO/EAHC and EuropeAid together with the participating national Institutions. [7]

[1] Institute of Public Health of Federation of Bosnia and Herzegovina. 2015. "Training Program". [http://www.zzjzfbih.ba/plan-edukacije/]. Accessed 30 October 2020.
[2] Institute of Public Health of Republic of Srpska. "Projects". [http://www.phi.rs.ba/index.php?view=kategorija&id=29]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). "Programs". [http://tephinet.org/programs]. Accessed 30 October 2020.
[6] Network for the Control of Public Health Threats in the Mediterranean Region and South East Europe (EpiSouth). "Events". [http://www.episouthnetwork.org/content/events]. Accessed 30 October 2020.
[7] Network for the Control of Public Health Threats in the Mediterranean Region and South East Europe (EpiSouth). "The EpiSouth Project". [http://www.episouthnetwork.org/content/episouth-project]. Accessed 30 October 2020.

2.6.1b

Are the available field epidemiology training programs explicitly inclusive of animal health professionals or is there a specific animal health field epidemiology training program offered (such as FETPV)?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is no public evidence of available field epidemiology training programs explicitly for animal health professionals, or a specific animal health field epidemiology training program offered (such as the Field Epidemiology Training Program for Veterinarians (FETPV)). Some related training for animal health professionals is organized mainly on an ad hoc basis through donor-funded projects (e.g. by the European Union). One such program is Better Training for Safer Food (BTSF), which is a European Commission training initiative covering food and feed law, animal health and welfare and plant health rules. [1] Bosnia and Herzegovina is a member of the BTSF training network. [2] An example of organized BTSF epidemiology training is the BTSF: Crisis and Foodborne Outbreaks Management program. [3] The websites of the Ministries of Health and Agriculture provide no information about field epidemiology training programs. [4, 5, 6, 7]

[1] European Commission. "Better Training for Safer Food (BTSF)". [https://ec.europa.eu/food/safety/btsf_en]. Accessed 30 October 2020.
[2] European Commission. "Better Training for Safer Food (BTSF). National Contact Points". [https://ec.europa.eu/food/sites/food/files/safety/docs/btsf_national-contact-points.pdf]. Accessed 30 October 2020.
[3] OPERA. "BTSF - Crisis and Foodborne Outbreaks Management". [http://www.salute.gov.it/imgs/C_17_corsiFormazioneVeterinaria_207_listaFile_itemName_0_file.pdf]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.

2.6.2 Epidemiology workforce capacity

2.6.2a

Is there public evidence that the country has at least 1 trained field epidemiologist per 200,000 people?

Yes = 1 , No = 0

Current Year Score: 0

2020

Completed JEE assessments; Economist Impact analyst qualitative assessment based on official national sources, which vary by country

Category 3: Rapid response to and mitigation of the spread of an epidemic

3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

3.1.1 National public health emergency preparedness and response plan

3.1.1a

Does the country have an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential?

Evidence that there is a plan in place, and the plan is publicly available = 2, Evidence that the plan is in place, but the plan is not publicly available OR, Disease-specific plans are in place, but there is no evidence of an overarching plan = 1, No evidence that such a plan or plans are in place = 0

Current Year Score: 1

There is evidence that Bosnia and Herzegovina has a disease-specific emergency response plan (for Pandemic Influenza), but there is no evidence of an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential.

At the state level, the Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina regulates cooperation and coordination between different institutions in the event of natural and other disasters. Article 2, point 4, of this Law includes public health emergencies in the definition of emergency situations. [1] At the entity level, both the Federation of Bosnia and Herzegovina and the Republic of Srpska have additional legislation. The former has a Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents for 2007-2011 which, in Section IV, "Concrete Strategic Directions with Action Plan" has a heading (3) dedicated to public health emergencies. This heading does not mention specific diseases, but elaborates preventive measures, as well as responsibilities of institutions in case of emergency. [2] In addition, the Law on Protection and Rescue from Natural and Other Disasters regulates planning and coordination of institutions in the event of natural and other disasters. Article 3 includes public health emergencies as one of the potential emergency situations. [3] In the Republic of Srpska, the Law on Protection and Rescue in Emergency Situations regulates planning and coordination of institutions in case of natural and other disasters. Article 5 includes health emergencies as one of the potential emergency situations. [4] Finally, Bosnia and Herzegovina has a Pandemic Influenza Preparedness and Control Plan. [5] However, none of these plans contains guidance on planning for multiple communicable diseases with epidemic or pandemic potential, and the websites of the Ministries of Health provide no further information about national public health emergency response plans to address multiple communicable diseases with pandemic potential. [6, 7]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesreca u BiH, PSBiH broj: 198/08)" [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2018. "Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents in Federation of Bosnia and Herzegovina for period 2007-2011 (Program zaštite i spašavanja ljudi i materijalnih dobara od prirodnih i drugih katastrofa u Federaciji Bosne i Hercegovine za period 2007-2011)" [http://www.fbihvlada.gov.ba/fucz/hrvatski/Program%20razvoja%20zastite%20i%20spasavanja_HR.pdf]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other

Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[4] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)" [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan" [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/default.aspx?id=4392&langTag=bs-BA]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.1.1b

If an overarching plan is in place, has it been updated in the last 3 years?

Yes = 1 , No /no plan in place= 0

Current Year Score: 0

Although Bosnia and Herzegovina has a number of laws and plans guiding emergency response more generally, there is no evidence of an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential. Furthermore, both the national law (the Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina) and the entity-level law for Bosnia and Herzegovina were last updated more than three years ago. The national-level law was last amended in 2008. The law for the Republic of Srpska, however, was updated in 2017. At the entity level, the Federation of Bosnia and Herzegovina has the Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents (Section IV of which, "Concrete Strategic Directions with Action Plan", has a heading (3) dedicated to public health emergencies) that was developed for the period 2007-2011. [2] In addition, the Law on Protection and Rescue from Natural and Other Disasters, which regulates planning and coordination of institutions in case of natural and other disasters including public health emergencies, was last updated in 2010. [3] In the Republic of Srpska, however, the Law on Protection and Rescue in Emergency Situations, which regulates planning and coordination of institutions in the event of natural and other disasters (including public health emergencies), was last amended in 2017. [4] Finally, Bosnia and Herzegovina has the Pandemic Influenza Preparedness and Control Plan but this document has not been updated since 2009. [5] The websites of the Ministries of Health provide no information about a recently updated national public health emergency response plan which addresses planning for multiple communicable diseases with pandemic potential. [6, 7]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesre?a u BiH, PSBiH broj: 198/08)" [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2018. "Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents in Federation of Bosnia and Herzegovina for period 2007-2011 (Program zaštite i spašavanja ljudi i materijalnih dobara od prirodnih i drugih katastrofa u Federaciji Bosne i Hercegovine za period 2007-2011)" [http://www.fbihvlada.gov.ba/fucz/hrvatski/Program%20razvoja%20zastite%20i%20spasavanja_HR.pdf]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. " Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.

[4] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan". [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/default.aspx?id=4392&langTag=bs-BA]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.1.1c

If an overarching plan is in place, does it include considerations for pediatric and/or other vulnerable populations?

Yes = 1 , No /no plan in place= 0

Current Year Score: 0

Although Bosnia and Herzegovina has a number of laws and plans guiding emergency response more generally, there is no evidence of an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential. Furthermore, although the existing emergency plans do touch on vulnerable and pediatric populations, it is primarily in the context of prioritized evacuations in a general emergency versus treatment during a health-specific crisis. At the entity level, neither the plans for the Federation of Bosnia and Herzegovina nor the Republic of Srpska account for the treatment of vulnerable populations during a health emergency. The Federation of Bosnia and Herzegovina has Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents for period 2007-2011 and Law on Protection and Rescue from Natural and Other Disasters which in its article 64 include considerations for pediatric and other vulnerable population who will have priority in case of evacuation. [1, 2] In the Republic of Srpska the Law on Protection and Rescue in Emergency Situations regulates planning and coordination of institutions in case of natural and other disasters and its article 73 state that pediatric and other vulnerable populations will have priority in case of evacuation. [3] Finally, Pandemic Influenza Preparedness and Control Plan of Bosnia and Herzegovina includes considerations for pediatric and other vulnerable populations, but only in the context of immunization and pro-phylaxis prioritization (e.g. pages 26 and 28). [4] On the website of the Ministries of Health there are no evidence of other plans which address the treatment of vulnerable populations during a public health emergency. [5, 6]

[1] Parliament of Federation of Bosnia and Herzegovina. 2018. "Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents in Federation of Bosnia and Herzegovina for period 2007-2011 (Program zaštite i spašavanja ljudi i materijalnih dobara od prirodnih i drugih katastrofa u Federaciji Bosne i Hercegovine za period 2007-2011)" [http://www.fbihvlada.gov.ba/fucz/hrvatski/Program%20razvoja%20zastite%20i%20spasavanja_HR.pdf]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[3] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[4] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan" [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/default.aspx?id=4392&langTag=bs-BA].

Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.1.1d

Does the country have a publicly available plan in place specifically for pandemic influenza preparedness that has been updated since 2009?

Yes = 1 , No = 0

Current Year Score: 0

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

3.1.2 Private sector involvement in response planning

3.1.2a

Does the country have a specific mechanism(s) for engaging with the private sector to assist with outbreak emergency preparedness and response?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina does not have a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response. Relevant strategic and legislative documents regulating emergency and protection situations in Bosnia and Herzegovina, such as the Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina, the Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents for the period 2007-2011, the Law on Protection and Rescue from Natural and Other Disasters in the Federation of Bosnia and Herzegovina, the Law on Protection and Rescue in Emergency Situations in the Republic of Srpska, and the Pandemic Influenza Preparedness and Control Plan of Bosnia and Herzegovina, do not refer to cooperation with the private sector. [1, 2, 3, 4, 5] Furthermore, no information about mechanisms for engaging with the private sector to assist with outbreak emergency preparedness and response can be found on the websites of the Ministry of Security of Bosnia and Herzegovina, or the Ministries of Health and Civil Protection Directorates. [6, 7, 8, 9, 10, 11]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesre?a u BiH, PSBiH broj: 198/08)." [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2018. "Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents in Federation of Bosnia and Herzegovina for period 2007-2011 (Program zaštite i spašavanja ljudi i materijalnih dobara od prirodnih i drugih katastrofa u Federaciji Bosne i Hercegovine za period 2007-2011)". [http://www.fbihvlada.gov.ba/fucz/hrvatski/Program%20razvoja%20zastite%20i%20spasavanja_HR.pdf]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other

Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[4] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan". [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/default.aspx?id=4392&langTag=bs-BA]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[8] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[9] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[10] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[11] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.

3.1.3 Non-pharmaceutical interventions planning

3.1.3a

Does the country have a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic?

Yes, a policy, plan and/or guidelines are in place for more than one disease= 2, Yes, but the policy, plan and/or guidelines exist only for one disease = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Bosnia and Herzegovina has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic.

Laws on Protection of Population from Infectious Diseases regulate general and specific measures for protection of population from infectious diseases (e.g. epidemiological surveillance, cleaning of facilities etc.), but they do not have a specific plan or guidance how these measures will be implemented. [1, 2] Websites of the ministries of health and institutes for public health do not have information about NPIs. [3, 4, 5, 6] While NPIs are available for Covid-19 on the special websites of the institutes for public health, evidence of elaborate guidelines or plans is missing. [7, 8]

[1] Republic of Srpska. Ministry of Health and Social Welfare. 2017. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/dokumenti/Documents/Zakon%20o%20zastiti%20stanovnistva%20od%20zaraznih%20bolesti%20SG%2090_17.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. 2005. "Law on the Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, „Službene novine Federacije BiH, br. 29/05)". [http://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.

[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[7] Institute of Public Health of Republic of Srpska. "Covid-19". [https://www.phi.rs.ba/index.php?view=kategorija&id=45]. Accessed 30 October 2020.
[8] Institute of Public Health of Federation of Bosnia and Herzegovina. "Covid-19". [https://covid-19.ba/]. Accessed 30 October 2020.

3.2 EXERCISING RESPONSE PLANS

3.2.1 Activating response plans

3.2.1a

Does the country meet one of the following criteria?
- Is there evidence that the country has activated their national emergency response plan for an infectious disease outbreak in the past year?
- Is there evidence that the country has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year?
Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

Current Year Score: 1

Bosnia and Herzegovina has activated its national emergency response plan for an infectious disease outbreak in the past year but there is no evidence that the country has completed a national-level biological threat-focused exercise (either with the World Health Organization (WHO) or separately) in the past year.

In line with the Law on Protection and Rescue from Natural and Other Disasters of Federation of Bosnia and Herzegovina and Law on Protection and Rescue in Emergency Situations of Republic of Srpska, on 17th March 2020 due to the Covid-19 situation, the Council of Ministers of Bosnia and Herzegovina passed, at the proposal of the Ministry of Security, the Decision on declaring a state of natural or other disaster on the territory of Bosnia and Herzegovina and introduced measures during the state of emergency. Some of the introduced measures are isolation for a period of 14 days for those who enter Bosnia and Herzegovina, all public gatherings are prohibited, shut-down of kinder-gardens, schools, universities, closure of all airports for passengers flights until 30 April 2020, etc. [1, 2, 3, 4]

In September 2018 the national authorities have completed a Tabletop Exercise (TTX) Training Module. [5] In addition, according to media, in 2017 public health and national security authorities, in cooperation with the North Atlantic Treaty Organization (NATO) and with participation of 35 countries, have carried out an exercise to respond to a potential deliberate biological event (i.e. bioterrorism attack). [6] There are no publicly available information on the websites of the ministries of health, institutes for public health and civil protection directorates about activation of the national emergency response plan or a national-level biological threat-focused exercise. [7, 8, 9, 10, 11, 12, 13

[1] BDK advokati. "Covid-19 Information on measures and activities of the authorities in Bosnia and Herzegovina". [https://bdkadvokati.com/covid-19-update-38-serbia-montenegro-bosnia-and-herzegovina/]. Accessed 25 April 2021.
[2] World Health Organization (WHO). "Simulation exercises - Bosnia and Herzegovina".

[https://extranet.who.int/sph/simulation-exercise]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[4] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[5] World Health Organization (WHO). "Strategic Partnerships Portal". [https://extranet.who.int/sph/country/1269] Accessed 30 October 2020.
[6] RTS. "NATO exercise in Tuzla, a new way of fighting natural disasters". [https://www.rts.rs/page/stories/sr/story/11/region/2881716/nato-vezba-u-tuzli-novi-nacin-borbe-protiv-prirodnih-katastrofa.html]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[9] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[10] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[11] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[12] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[13] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.

3.2.1b

Is there evidence that the country in the past year has identified a list of gaps and best practices in response (either through an infectious disease response or a biological-threat focused exercise) and developed a plan to improve response capabilities?

Yes, the country has developed and published a plan to improve response capacity = 2 , Yes, the country has developed a plan to improve response capacity, but has not published the plan = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that in the last year Bosnia and Herzegovina has identified a list of gaps and best practices in response (either through an infectious disease response or a biological-threat focused exercise) and developed a plan to improve response capabilities. The World Health Organization (WHO) After Action Review page and WHO country office page do not have any information on exercises involving Bosnia and Herzegovina. [1,2] However, in 2017 public health and national security authorities, in cooperation with the North Atlantic Treaty Organization (NATO) and with participation of 35 countries, have carried out an exercise to respond to a potential deliberate biological event (i.e. bioterrorism attack). Also, according to the WHO Strategic Partnerships Portal, in September 2018, Tabletop Exercise (TTX) Training Module was implemented. [3, 4] Website of the ministries of health does not have information about identification of gaps and best practices in response (either through an infectious disease response or a biological-threat focused exercise) and development of a plan to improve response capabilities. [5, 6]

[1] World Health Organization (WHO). "After Action Review." [https://extranet.who.int/sph/after-action-review]. Accessed 30 October 2020.
[2] World Health Organization (WHO). "Bosnia and Herzegovina". [https://www.euro.who.int/en/countries/bosnia-and-

herzegovina]. Accessed 30 October 2020.
[3] RTS. "NATO exercise in Tuzla, a new way of fighting natural disasters". [https://www.rts.rs/page/stories/sr/story/11/region/2881716/nato-vezba-u-tuzli-novi-nacin-borbe-protiv-prirodnih-katastrofa.html]. Accessed 30 October 2020.
[4] World Health Organization (WHO). "Strategic Partnerships Portal". [https://extranet.who.int/sph/country/1269] Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.2.2 Private sector engagement in exercises

3.2.2a

Is there evidence that the country in the past year has undergone a national-level biological threat-focused exercise that has included private sector representatives?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has, in the past year, undergone a national-level biological threat-focused exercise that has included private sector representatives. According to information available on World Health Organization (WHO) Strategic Partnership Portal, Bosnia and Herzegovina has not, in the past year, undergone a national-level biological threat-focused exercise that has included private sector representatives. [1] There are no publicly available information on the websites of the ministries of health, ministries of interior, ministries of agriculture and institutes for public health. [2, 3, 4, 5, 6, 7, 8, 9] There is no further evidence on the WHO Simulation Exercises page. [10]

[1] World Health Organization (WHO). "Strategic Partnerships Portal". [https://extranet.who.int/sph/country/1288] Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[10] World Health Organization (WHO). "Simulation Exercises". [https://extranet.who.int/sph/simulation-exercise] Accessed 30 October 2020.

3.3 EMERGENCY RESPONSE OPERATION

3.3.1 Emergency response operation

3.3.1a

Does the country have in place an Emergency Operations Center (EOC)?

Yes = 1 , No = 0

Current Year Score: 1

Since 2009, Bosnia and Herzegovina has had an Emergency Operations Center – the Operational Communication Center – within the Ministry of Security of Bosnia and Herzegovina. The Ministry of Security is responsible for overall coordination of rescue and protection activities in the event of natural and other disasters, including public health emergencies. The Operational Communication Center also includes the Coordination Body of Bosnia and Herzegovina for protection and rescue which includes all relevant bodies at the state and entity level, as well as the emergency number, 112, used for coordination of all relevant bodies in the event of natural and other disasters. [1] At entity level, the civil protection and rescue system comprises two bodies (the Civil Protection Administration of the Federation of Bosnia and Herzegovina, and the Civil Protection Administration of Republic of Srpska), as well as the Sub-Unit for Rescue and Protection of Brcko District. [2, 3, 4]

[1] Ministry of Security of Bosnia and Herzegovina. 2009. "Opening of Operational Communication Centre -112". [http://www.msb.gov.ba/vijesti/saopstenja/default.aspx?id=3109&langTag=bs-BA]. Accessed 30 October 2020.
[2] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[4] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.

3.3.1b

Is the Emergency Operations Center (EOC) required to conduct a drill for a public health emergency scenario at least once per year or is there evidence that they conduct a drill at least once per year?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is insufficient evidence that the Emergency Operations Centers are required to conduct a drill at least once per year. There is evidence, however, that drills are conducted annually in some parts of the country and every other years in other parts of the country.

At the state level, the Operational Communication Center, which is part of the Ministry of Security, organizes regular drills. [1] In addition, Civil Protection authorities of each entity (the Federation of Bosnia and Herzegovina and the Republic of Srpska) and the Brcko District develop their own programs and training plans, and are responsible for their enforcement. [2, 3, 4] However, while in the Republic of Srpska the Law on Protection and Rescue in Emergency Situations plans annual drills, in the Federation of Bosnia and Herzegovina, Article 164 of the Law on Protection and Rescue from Natural and Other Disasters envisages organization of drills every second year. [5, 6]

[1] Ministry of Security of Bosnia and Herzegovina. "Drills".
[http://www.msb.gov.ba/search/Default.aspx?q=Operativno+komunikacijski+centar+vjezba&searchDepth=0&selectedCatego

ry=0&contentType=0&pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[2] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[4] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.
[5] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[6] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.

3.3.1c

Is there public evidence to show that the Emergency Operations Center (EOC) has conducted within the last year a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario?

Yes = 1 , No = 0

Current Year Score: 0

There is no public evidence to show that the Emergency Operations Center can conduct, or has conducted within the last year, a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario. While there is evidence that Bosnia and Herzegovina, as a decentralized state, conducts drills at the state-level Operational Communication Center that is part of the Ministry of Security, there is no evidence that it can respond to a health emergency within 120 minutes of identification. [1] The websites of Civil Protection authorities and Ministries of Health provide no information about a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario. [2, 3, 4, 5, 6]

[1] Ministry of Security of Bosnia and Herzegovina. "Drills". [http://www.msb.gov.ba/search/Default.aspx?q=Operativno+komunikacijski+centar+vjezba&searchDepth=0&selectedCategory=0&contentType=0&pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[2] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[4] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

3.4.1 Public health and security authorities are linked for rapid response during a biological event

3.4.1a

Does the country meet one of the following criteria?

- Is there public evidence that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event (i.e., bioterrorism attack)?

- Are there publicly available standard operating procedures, guidelines, memorandums of understanding (MOUs), or other agreements between the public health and security authorities to respond to a potential deliberate biological event (i.e., bioterrorism attack)?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 0

There is no publicly available evidence that public health and national security authorities of Bosnia and Herzegovina have carried out an exercise to respond to a potential deliberate biological event (i.e., bioterrorism attack) and there are no publicly available standard operating procedures, guidelines, MOUs or other agreements between the public health and security authorities to respond to a potential deliberate biological event. In 2017 relevant authorities of Bosnia and Herzegovina, in cooperation with North Atlantic Treaty Organization (NATO) and with participation of 35 countries, have carried out an exercise to respond to a potential natural disasters. Also, according to the World Health Organization (WHO) Strategic Partnerships Portal, in September 2018, Tabletop Exercise (TTX) Training Module was implemented. [1, 2, 3] The Ministry of Security of Bosnia and Herzegovina is responsible for "implementation of international obligations and cooperation in matters relating to civil protection, coordination of activities of entity services for civil protection in Bosnia and Herzegovina, and harmonization of their plans for cases of natural or other disasters striking BiH territories, as well as issuance of agenda for protection and rescue". However, there are no publicly available standard operating procedures, guidelines, MOUs or other agreements between the public health and security authorities to respond to a potential deliberate biological event. [4] Websites of the directorates for civil protection and ministries of health do not have additional information about an exercise to respond to a potential deliberate biological event and standard operating procedures, guidelines, MOUs or other agreements between the public health and security authorities to respond to a potential deliberate biological event. [5, 6, 7, 8, 9]

[1] RTS. "NATO exercise in Tuzla, a new way of fighting natural disasters". [https://www.rts.rs/page/stories/sr/story/11/region/2881716/nato-vezba-u-tuzli-novi-nacin-borbe-protiv-prirodnih-katastrofa.html]. Accessed 30 October 2020.
[2] BLIC. "NATO exercises begin in Tuzla: 35 teams and 1,300 people practice "a new way to fight DISASTERS"". [https://www.blic.rs/vesti/svet/pocinju-nato-vezbe-u-tuzli-35-timova-i-1300-ljudi-vezbaju-novi-nacin-borbe-protiv/bj0wm5r] Accessed 30 October 2020.
[3] World Health Organization (WHO). "Strategic Partnerships Portal". [https://extranet.who.int/sph/country/1288] Accessed 30 October 2020.
[4] Ministry of Security. "About the Ministry". [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[5] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[7] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-

zastitu-i-spasavanje?lang=en]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

3.5 RISK COMMUNICATIONS

3.5.1 Public communication

3.5.1b

Does the risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) outline how messages will reach populations and sectors with different communications needs (eg different languages, location within the country, media reach)?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, relevant legislation does not outline how messages will reach populations and sectors with different communications needs (e.g. different languages, location within country, media reach, etc.). In the Republic of Srpska, Article 6 of the Ordinance on alerting and managing citizens in the event of danger states that the public is informed about emergency situations by radio and TV stations. [1] Article 161 of the Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters of the Federation of Bosnia and Herzegovina states that the public is informed about emergency situations by radio and TV stations, public stations, and other suitable sound devices. [2] Both Acts refer to emergency situations in general, although public health emergencies are included in the definition of emergency situations. However, these acts do not elaborate how messages will reach populations and sectors with different communications needs (e.g. different languages, location within the country, media reach). In addition, on the websites of the Ministries of Health, Ministries of Interior and Ministry of Security there are no additional information about these issues. [3, 4, 5, 6, 7]

[1] Ministry of Interior of Republica Srpska. 2013. "Ordinance on alerting and managing citizens in case of danger (Pravilnik o uzbunjivanju i postupanju gradjana u slucaju opasnosti, Sl. gl. RS, broj 53/13)". [http://www.podaci.net/_gBiH/propis/Pravilnik_o_uzbunjivanju/P-upgsop03v1353.html]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. [http://msb.gov.ba/Default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.

3.5.1 Risk communication planning

3.5.1a

Does the country have in place, either in the national public health emergency response plan or in other legislation, regulation, or strategy documents, a section detailing a risk communication plan that is specifically intended for use during a public health emergency?

Yes = 1 , No = 0

Current Year Score: 1

Bosnia and Herzegovina does have in place risk communication plans that are specifically intended for use during a public health emergency. At the entity level, Articles 124-127 of the Law on Protection and Rescue in Emergency Situations of Republic of Srpska, and Articles 157 and 161 of the Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters of the Federation of Bosnia and Herzegovina elaborate a risk communication plan in the event of emergency situations, including a public health emergency. These two articles refer to emergency situations in general, but both laws include public health emergencies as one of the potential emergency situations. Both laws describe communication instruments (i.e. System 112), communication between different institutions, communications with the public via radio and television, etc. [1, 2] However, according to the EC 2020 Progress Report no progress was made on introducing the European emergency number
112. [3] Additionally, Section 7 of the Pandemic Influenza Preparedness and Control Plan of Bosnia and Herzegovina details a risk communication plan that is specifically intended for use during a public health emergency. This section includes details such as communication chain structure (e.g. between the coordination authority and team for communication in the event of a pandemic influenza outbreak), activities to be implemented (e.g. drafting all communication material), and an outline of communication by pandemic phases. However, there are no evidence on implementation of this document. [4] Websites of the Ministries of Health, Interior and Security do not have additional information about risk communication plans that are specifically intended for use during a public health emergency. [5, 6, 7, 8, 9]

[1] Parliament of Federation of Bosnia and Herzegovina. 2010. " Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[2] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[3] European Commission. 2020. " Bosnia and Herzegovina 2020 Report". [https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/bosnia_and_herzegovina_report_2020.pdf]. Accessed 30 October 2020.
[4] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan" [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/publikacije/default.aspx?id=7276&langTag=en-US]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[7] Ministry of Security of Bosnia and Herzegovina. [http://msb.gov.ba/Default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.

3.5.1c

Does the risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) designate a specific position within the government to serve as the primary spokesperson to the public during a public health emergency?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that the risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) designate a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. Laws on Protection of Population from Infectious Diseases, Pandemic Influenza Preparedness Plan, as well as websites of the ministries of health and institutes for public health do not have information about a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. [1,2,3,4,5,6,7]

[1] Parliament of Federation of Bosnia and Herzegovina. 2010. " Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[2] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[3] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan" [http://www.mcp.gov.ba/org_jedinice/sektor_zdravstvo/dokumenti/strateski_doc/default.aspx?id=4392&langTag=bs-BA]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

3.5.2 Public communication

3.5.2a

In the past year, is there evidence that the public health system has actively shared messages via online media platforms (e.g. social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation?

Public health system regularly shares information on health concerns = 2, Public health system shares information only during active emergencies, but does not regularly utilize online media platforms = 1, Public health system does not regularly utilize online media platforms, either during emergencies or otherwise = 0

Current Year Score: 2

There is evidence that the public health system has actively shared messages via online media platforms (e.g. social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation. On the websites of the institutes for public health there are evidence that the public health system has actively shared messages to inform the public about ongoing public health concerns, such as influenza and blood donation. These websites provide also latest information related to Covid-19 in Republic of Srpska and Federation of Bosnia and Herzegovina. Besides

the latest statistical data, the website also provides recommendations about preventive measures (e.g. avoid close contact with people with symptoms of a respiratory infection (fever, sneezing, cough, runny nose, difficult breathing or other); keep the recommended distance of at least one meter; use a face mask to cover your mouth and nose when staying indoors etc.). [1, 2] In addition, on the website of the Institute of Republic of Srpska there are regular weekly reports on situation concerning influenza, while such report do not exist on the website of the Institute for Public Health of Federation of Bosnia and Herzegovina. [3] Ministries of health are using social media to inform public about ongoing public health concerns. [4, 5] On the websites of the ministries of health or the institutes for public health there is no evidence that the public health system has actively shared messages via online media platforms to inform the public about dispel rumors, misinformation or disinformation [6, 7, 8, 9]

[1] Institute of Public Health of Republic of Srpska. "Covid-19". [https://www.phi.rs.ba/index.php?view=kategorija&id=45]. Accessed 30 October 2020.
[2] Institute of Public Health of Federation of Bosnia and Herzegovina. "Influenza reports". [https://www.phi.rs.ba/index.php?view=kategorija&id=18]. Accessed 30 October 2020.
[3] Institute of Public Health of Republic of Srpska. "Covid-19". [https://covid-19.ba/]. Accessed 30 October 2020.
[4] Ministry of Health and Social Protection of Republic of Srpska. "Facbook page". [https://www.facebook.com/Министарство-здравља-и-социјалне-заштите-Републике-Српске-306180006724114]. Accessed 30 October 2020.
[5] Facebook - Ministry of Health of Federation of Bosnia and Herzegovina. [https://www.facebook.com/KrizniStabStozerFederalnogMinistarstvaZdravstva/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

3.5.2b

Is there evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years?

No = 1, Yes = 0

Current Year Score: 1

There is no evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years. On the websites of the ministries of health and media outlets there are no information about shared misinformation or disinformation on infectious diseases in the past two years. [1, 2, 3, 4, 5]

[1] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[3] Novosti."Dodik: The pandemic is not calming down and that is worrying, we will discuss measures". [https://www.novosti.rs/republika-srpska/vesti/907775/dodik-pandemija-smiruje-zabrinjava-razgovaracemo-merama]. Accessed 30 October 2020.
[4] Mondo. "Corona enters the Presidency of BiH: Zeljko Komsic's advisor is infected". [https://mondo.rs/Info/EX-YU/a1350631/insertcomment/Korona-virus-Bosna-i-Hercegovina-Zarazen-savetnik-Zeljko-Komsic-Predsednistvo-BiH-Pozitivn.html]. Accessed 30 October 2020.
[5] BL portal. "Preventive test: Dzaferovic negative for corona virus". [https://www.bl-portal.com/novosti/preventivno-se-

testirao-dzaferovic-negativan-na-korona-virus/]. Accessed 30 October 2020.

3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

3.6.1 Internet users

3.6.1a

Percentage of households with Internet

Input number

Current Year Score: 69.95

2019

International Telecommunication Union (ITU)

3.6.2 Mobile subscribers

3.6.2a

Mobile-cellular telephone subscriptions per 100 inhabitants

Input number

Current Year Score: 111.91

2019

International Telecommunication Union (ITU)

3.6.3 Female access to a mobile phone

3.6.3a

Percentage point gap between males and females whose home has access to a mobile phone

Input number

Current Year Score: 5.0

2019

Gallup; Economist Impact calculation

3.6.4 Female access to the Internet

3.6.4a

Percentage point gap between males and females whose home has access to the Internet

Input number

Current Year Score: 0

2019

Gallup; Economist Impact calculation

3.7 TRADE AND TRAVEL RESTRICTIONS

3.7.1 Trade restrictions

3.7.1a

In the past year, has the country issued a restriction, without international/bilateral support, on the export/import of medical goods (e.g. medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak?

Yes = 0 , No = 1

Current Year Score: 1

There is no evidence that Bosnia and Herzegovina, in the past year, has issued a restriction, without international/bilateral support, on the export/import of medical goods (e.g. medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak. On the websites of the Ministry of Foreign Trade and Economic Relations, ministries of health, institutes for public health there are no information about such restrictions. [1, 2, 3, 4, 5]

[1] Council of Ministers. Ministry of Foreign Trade and Economic Relations. [http://www.mvteo.gov.ba/?lang=sr]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

3.7.1b

In the past year, has the country issued a restriction, without international/bilateral support, on the export/import of non-medical goods (e.g. food, textiles, etc) due to an infectious disease outbreak?

Yes = 0 , No = 1

Current Year Score: 1

There is no evidence that Bosnia and Herzegovina, in the past year, has issued a restriction, without international/bilateral support, on the export/import of non-medical goods (e.g. food, textiles, etc.) due to an infectious disease outbreak. On the websites of the Ministry of Foreign Trade and Economic Relations, ministries of health, institutes for public health there are no information about such restrictions. [1, 2, 3, 4, 5] In addition, the World Health Organization (WHO) Disease Outbreak News and World Organization for Animal Health (OIE) Weekly disease information do not have a reference related to a restriction on the export/import of non-medical goods due to an infectious disease outbreak. [6, 7]

[1] Council of Ministers. Ministry of Foreign Trade and Economic Relations. [http://www.mvteo.gov.ba/?lang=sr]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

[4] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[6] World Health Organization (WHO). "Diseases outbreak per country".
[https://www.who.int/csr/don/archive/country/bih/en/] Accessed 30 October 2020.
[7] World Organization for Animal Health (OIE). "Weekly Disease Information".
[https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI] Accessed 30 October 2020.

3.7.2 Travel restrictions

3.7.2a

In the past year, has the country implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak?

Yes = 0 , No = 1

Current Year Score: 0

Bosnia and Herzegovina has implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak. On 17th March 2020 due to the Covid-19 situation, the Council of Ministers of Bosnia and Herzegovina passed, at the proposal of the Ministry of Security, the Decision on declaring a state of natural or other disaster on the territory of Bosnia and Herzegovina and introduced measures during the state of emergency (isolation for a period of 14 days for those who enter Bosnia and Herzegovina, all public gatherings are prohibited etc.). In line with this Decision all foreign nationals entering Bosnia and Herzegovina are banned, with the exception of certain categories of people (health workers, persons in need of treatment, cross-border workers, civil protection services and teams, members of NATO and other Partnership for Peace forces, as well as the NATO Headquarters in Bosnia and Herzegovina, persons residing in Bosnia and Herzegovina, persons in transit through BiH without detention and persons who have a permit issued by the Council of Ministers). [1]

[1] Law Office Majic. "Covid-19 Information on measures and activities of the authorities in Bosnia and Herzegovina". [https://advokatskafirmasajic.com/blog/bs/covid-19-informacije-o-mjerama-i-aktivnostima-organa-vlasti-u-bih-4/]. Accessed 30 October 2020.

Category 4: Sufficient and robust health sector to treat the sick and protect health workers

4.1 HEALTH CAPACITY IN CLINICS, HOSPITALS, AND COMMUNITY CARE CENTERS

4.1.1 Available human resources for the broader healthcare system

4.1.1a

Doctors per 100,000 people

Input number

Current Year Score: 216.16

2015

WHO; national sources

4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 573.33

2018

WHO; national sources

4.1.1c

Does the country have a health workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina does not have a public workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings. The Employment Strategy of Bosnia and Herzegovina was prepared in 2010 and covers the period 2010-2014. [1] In addition to this document, in 2012 an annual report, "Labor Market Research in Bosnia and Herzegovina", was prepared with the aim to develop compliance of the educational system with labor market needs. [2] In the Republic of Srpska, the Union of Employers' Association of Republic of Srpska has prepared analysis and forecasts of the labor market for the period 2017-2021. The result of this analysis is a comprehensive projection of labor supply in the medium term, based on the current trends, at Republic of Srpska level and for selected municipalities. This document also contains projections of employment and unemployment of the health workforce. [3] The Ministries of Health, Labor and Education do not have information about a public workforce strategy in place (which has been updated in the past five years) to identify areas where there is an insufficient workforce, or strategies to address these shortcomings. [4, 5, 6, 7, 8, 9]

[1] Agency for Labor and Employment of Bosnia and Herzegovina. 2010. "Employment Strategy of Bosnia and Herzegovina (Strategija zapošljavanja u Bosni i Hercegovini)". [http://www.arz.gov.ba/files/akti/strategije/Strategija_zaposljavanja_2010-2014_bs.pdf]. Accessed 30 October 2020.
[2] Agency for Labor and Employment of Bosnia and Herzegovina. 2012. "Labor market research in Bosnia and Herzegovina with the aim to develop compliance of educational system with labor market needs (Istraživanje tržišta rada u Bosni i Hercegovini u cilju utvrdivanja uskladenosti obrazovnog sistema sa potrebama tržišta rada u 2012. godini)". [http://www.arz.gov.ba/Dokumenti/Fajlovi/ANKETA%202012.pdf]. Accessed 30 October 2020.
[3] Union of Employers' Association of Republic of Srpska. 2017. "Analysis and Forecasts of Labour Market in Republic of Srpska for the period 2017-2021 (Analiza i projekcije tržišta rada u Republici Srpskoj za period 2017-2021)". [http://unijauprs.org/dokumenti/analiza.pdf]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-

Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Labor, War Veterans and Disabled Persons' Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mpb/Pages/default.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. MInistry of Labor and Social Protection. [http://fmrsp.gov.ba/]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Education and Culture. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mpk/Pages/default.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.

4.1.2 Facilities capacity

4.1.2a

Hospital beds per 100,000 people
Input number

Current Year Score: 349

2014

WHO/World Bank; national sources

4.1.2b

Does the country have the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation room/unit located within the country?
Yes = 1 , No = 0

Current Year Score: 0

There is insufficient public evidence that Bosnia and Herzegovina has the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation facility located within the country. According to Article 29 of the Law on Protection of Population from Infectious Diseases of Republic of Srpska, and Article 21 of the Law on Protection of Population from Infectious Diseases of Federation of Bosnia and Herzegovina, a person found or suspected to be suffering from an infectious disease should be isolated and hospitalized in healthcare facilities under appropriate conditions. [1, 2] In Bosnia and Herzegovina there are two such facilities: the University Clinical Center of the Republic of Srpska's Clinic for Infectious Diseases; and the Federation of Bosnia and Herzegovina Clinic for Infectious Diseases. Neither clinic's website provides information about its technical capacities. [3, 4] Information from media outlets shows that the Clinic for Infectious Diseases was refurbished in 2007 (e.g. a reception for patients with serious conditions was constructed, and the immunological laboratory was also renovated). [5] A further upgrade of the clinic has started in January 2020 and it is expected that the clinic will be renovated in 14 months. [6] According to the press statement of the Clinic of Infectious Diseases in the Federation of Bosnia and Herzegovina, it is "ready to respond in case of greatest epidemics". [7] However, there is no detail on whether these facilities have isolation capabilities via the detailed sources or the websites of the Ministries of Health. [8, 9]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-

zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 030 October 2020.
[3] Republic of Srpska. University Clinical Centre of the Republic of Srpska. "Clinic for Infectious Diseases". [https://www.kc-bl.com/Lat/?page_id=1876]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. "Clinic for Infectious Diseases". [http://www.kcus.ba/klinika_za_infektivne_bolesti.html]. Accessed 30 October 2020.
[5] Glas Srpske. "Renovated Clinic for Infectious Diseases in Banja Luka". [https://www.glassrpske.com/novosti/vijesti_dana/Renovirana-banjolucka-Klinika-za-infektivne-bolesti/lat/4757.html]. Accessed 30 October 2020.
[6] N1. "Reconstruction of the Clinic for Infectious and Tropical Diseases begins". [http://rs.n1info.com/Vesti/a564098/Pocinje-rekonstrukcija-Klinike-za-infektivne-i-tropske-bolesti.html]. Accessed 30 October 2020.
[7] Clinic for Infectious Diseases. "Press Statements". [http://www.kcus.ba/vijesti.php?p=376]. Accessed 30 October 2020.
[8] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[9] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

4.1.2c

Does the country meet one of the following criteria?
- Is there evidence that the country has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years?
- Is there evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years?

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years or that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. Websites of the Ministry of Security of Bosnia and Herzegovina, Ministries of health and Directorates for civil protection do not have information about expanding isolation capacities. [1, 2, 3, 4, 5, 6]

[1] Ministry of Security of Bosnia and Herzegovina. "Drills". [http://www.msb.gov.ba/Default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 25 April 2021.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 25 April 2021.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 25 April 2021.
[4] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 25 April 2021.
[5] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 25 April 2021.
[6] Brcko District. Sub-Unit for Rescue and Protection. [http://www.vlada.bdcentral.net/Publication/Read/pododjeljenje-za-zastitu-i-spasavanje?lang=en]. Accessed 25 April 2021.

4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

4.2.1 Routine health care and laboratory system supply

4.2.1a

Is there a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory supplies (e.g. equipment, reagents and media) and medical supplies (e.g. equipment, PPE) for routine needs?

Yes for both laboratory and medical supply needs = 2, Yes, but only for one = 1, No = 0

Current Year Score: 2

In Bosnia and Herzegovina there is a procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory supplies (e.g. equipment, reagents and media) and medical supplies (e.g. equipment, PPE) for routine needs.

The public procurement system, including the acquisition of laboratory needs, for both ministries and their subordinated bodies, is regulated by the Law on Public Procurement which sets out a protocol that should be followed for purchases (which from the text of the law may include medical and laboratory supplies). For example, Article 36 states that: "All procurement notices, contract awards, cancellations of public procurement procedures, voluntary ex ante transparency notices and prior information notices, as well as a summary of the procurement notices in English, shall be published by the contracting authority on the public procurement portal. A summary of all notifications is published in the "Official Gazette of BiH"" [1] For illustration purposes, on the website of the Institute of Public Health of the Republic of Srpska and Veterinary Office of Bosnia and Herzegovina, there are information about annual plans for public procurement procedures organized by the Institute and the Office. The acquisition of laboratory and medical supplies are also envisaged in the 2018 plans. [2, 3]

[1] Parliament of Bosnia and Herzegovina. 2014. "Law on Public Procurement (Zakon o javnim nabavkama, Sl. glasnik BiH, br. 39/2014)". [https://www.paragraf.ba/propisi/bih/zakon-o-javnim-nabavkama.html]. Accessed 30 October 2020.
[2] Institute of Public Health. 2017. "Plan for Implementation of Public Procurement Procedures for 2017 (Plan sprovodjenja postupaka javnih nabavki za 2017)". [https://www.phi.rs.ba/pdf/sadrzaj/plan_javnih_nabavki_2018.pdf]. Accessed 30 October 2020.
[3] Veterinary Office of Bosnia and Herzegovina. 2018. "Temporary Public Procurement Plan of Veterinary Office of Bosnia and Herzegovina for 2018. (Privremeni plan nabavki Kancelarije za veterinarstvo Bosne i Hercegovine za 2018)". [http://www.vet.gov.ba/v2//public/data/documents/369/PlanNabavki2018.PDF]. Accessed 25 April 2021.

4.2.2 Stockpiling for emergencies

4.2.2a

Does the country have a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency?

Yes = 2, Yes, but there is limited evidence about what the stockpile contains = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a stockpile of medical supplies (e.g. medical countermeasures (MCM), medicines, vaccines, medical equipment, Personal Protective Equipment (PPE)) for national use during a public health

emergency. Laws on Protection of Population from Infectious Diseases do not regulate medical supplies for national use during a public health emergency. [1, 2] The websites for the annual programs for vaccination of Republic of Srpska and Federation of Bosnia and Herzegovina, as well as websites of the ministries of health and institutes for public health do not have information about medical supplies for national use during a public health emergency. [3, 4, 5, 6, 7, 8] During the Covid-19 outbreak, the international community provided support to Bosnia and Herzegovina in providing medical supplies (e.g. equipment, PPE etc.). [9]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Vaccines. 2019. "Immunization Calendar for Republic of Srpska in 2019". [https://vakcine.ba/kalendari-imunizacije-2/kalendar-imunizacije-rs-2019/]. Accessed 30 October 2020.
[4] Vaccines. 2019. "Immunization Calendarn for Federation of Bosnia and Herzegovina in 2019". [https://vakcine.ba/kalendari-imunizacije-2/kalendar-imunizacije-fbih-za-2019-godinu/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[9] Istinomjer. "Assistance for the fight against COVID 19 Bosnia and Herzegovina comes from international institutions and individual countries". [https://istinomjer.ba/pomoc-za-borbu-protiv-covid-19-bih-stize-od-medjunarodnih-institucija-ali-i-pojedinih-drzava/]. Accessed 30 October 2020.

4.2.2b

Does the country have a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency?

Yes = 2, Yes, but there is limited evidence about what the stockpile contains = 1, No = 0

Current Year Score: 0

Bosnia and Herzegovina does not have a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. Laws on Protection of Population from Infectious Diseases do not regulate a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. [1, 2] Websites of the ministries of health and institutes for public health do not have information about a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. [3, 4, 5, 6] During Covid-19 outbreak international community provided support to Bosnia and Herzegovina in providing laboratory supplies (e.g. reagents, media). [7]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti

_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[7] Istinomjer. "Assistance for the fight against COVID 19 Bosnia and Herzegovina comes from international institutions and individual countries". [https://istinomjer.ba/pomoc-za-borbu-protiv-covid-19-bih-stize-od-medjunarodnih-institucija-ali-i-pojedinih-drzava/]. Accessed 30 October 2020.

4.2.2c

Is there evidence that the country conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency?

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency as there is no evidence that the country maintains a stockpile for use during public health emergencies. Laws on Protection of Population from Infectious Diseases do not require an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. [1, 2] Websites of the Ministries of Health and Institutes for Public Health do not have information about medical supplies for national use during a public health emergency. [3, 4, 5, 6]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

4.2.3 Manufacturing and procurement for emergencies

4.2.3a

Does the country meet one of the following criteria?

- Is there evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?

- Is there evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 1

In Bosnia and Herzegovina there is no evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. Medical Countermeasures (MCM), medicines, vaccines, equipment, PPE) for national use during a public health emergency. However, there is evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency.

In the Republic of Srpska, according to article 17 of the Law on Protection of Population from Infectious Diseases, health care institutions are obliged to provide reserves of medicines, disinfectants, protective and other medical devices and equipment for regular activities and their use in the event of an epidemic. [1] In the Federation of Bosnia and Herzegovina, according to article 54 of the Law on Protection of Population from Infectious Diseases, in order to prevent infectious diseases, Ministry of Health can introduce obligatory measures for health care institutions and other legal entities, holders of private practice and other natural persons in the control of diseases (i.e. the use of facilities, equipment and means of transport for the purpose of combating infectious diseases). [2] However, in these laws, as well as on the websites of the ministries of health and institutes for public health, there are no specific provisions to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency or a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. [3, 4, 5, 6] During the Covid-19 outbreak, domestic manufacturing capacities have been used to produce mainly PPE. [7] In addition, procurement of medical and laboratory supplies was done in the form of donation from other countries. [8, 9] During the outbreak, the Republic of Srpska received 10,000 testing kits from the Republic of Serbia. [10]

Bosnia and Herzegovina has been part of the European Union (EU) Joint Procurement Agreement for Medical Countermeasures, which ensures that member states have access to medical countermeasures from abroad, if necessary, when a serious cross-border threat to health is registered. The agreement aims to "secure more equitable access to specific medical countermeasures and improved security of supply", as well as balancing prices for EU member states. It is also designed to ensure acquisition of vaccines, antivirals and medical countermeasures for serious cross-border threats to health [11].

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[7] Balkans Aljazeera. 21 April 2020. "Companies in Bosnia and Herzegovina make top equipment, the government favors imports and donations". [http://balkans.aljazeera.net/vijesti/firme-u-bih-prave-vrhunsku-opremu-vlast-favorizuje-uvoz-i-donacije]. Accessed 30 October 2020.
[8] Balkans Aljazeera. 22 May 2020. "Bosnia and Herzegovina received medical assistance from the EU, respirators arrived from Sweden". [http://balkans.aljazeera.net/vijesti/bih-dobila-medicinsku-pomoc-od-eu-stigli-respiratori-iz-svedske]. Accessed 30 October 2020.

[9] International Organization for Migration. 12 August 2020. "European Union donates protective equipment against Covid-19 to Border Police and Foreigners Service". [https://bih.iom.int/pbn/evropska-unija-donirala-za%C5%A1titnu-opremu-protiv-covid-19-grani%C4%8Dnoj-policiji-i-slu%C5%BEbi-za-poslove]. Accessed 30 October 2020.
[10] N1. 23 July 2020. "Serbia donated 15 ambulances to Republika Srpska, Vucic in Banja Luka". [http://rs.n1info.com/Region/a622580/Srbija-donirala-Republici-Srpskoj-15-sanitetskih-vozila-Vucic-u-Banjaluci.html]. Accessed 30 October 2020.
[11] European Commission. "Joint Procurement Of Medical Countermeasures". [https://ec.europa.eu/health/preparedness_response/joint_procurement_en]. Accessed 3 September 2020

4.2.3b

Does the country meet one of the following criteria?
- Is there evidence of a plan/agreement to leverage domestic manufacturing capacity to produce laboratory supplies (e.g. reagents, media) for national use during a public health emergency?
- Is there evidence of a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a plan/agreement to leverage domestic manufacturing capacity to produce laboratory supplies (e.g. reagents, media) for national use during a public health emergency or a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency. In the Republic of Srpska, according to article 17 of the Law on Protection of Population from Infectious Diseases health care institutions are obliged to provide reserves of medicines, disinfectants, protective and other medical devices and equipment for regular activities and their use in the event of an epidemic. [1] In the Federation of Bosnia and Herzegovina, according to article 54 of the Law on Protection of Population from Infectious Diseases, in order to prevent infectious diseases, Ministry of Health can introduce obligatory measures for health care institutions and other legal entities, holders of private practice and other natural persons in the control of diseases (i.e. the use of facilities, equipment and means of transport for the purpose of combating infectious diseases). [2] However, in these laws, as well as on the websites of the ministries of health and institutes for public health there are no specific provisions to leverage domestic manufacturing capacity to produce laboratory supplies (e.g. reagents, media) for national use during a public health emergency or a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency. [3, 4, 5, 6] During Covid-19 outbreak domestic manufacturing capacities have been used to produce mainly PPE. [7] In addition, during Covid-19 outbreak procurement of medical and laboratory supplies was done in the form of donation from other countries. [8, 9]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

[7] Balkans Aljazeera. 21 April 2020. "Companies in Bosnia and Herzegovina make top equipment, the government favors imports and donations". [http://balkans.aljazeera.net/vijesti/firme-u-bih-prave-vrhunsku-opremu-vlast-favorizuje-uvoz-i-donacije]. Accessed 30 October 2020.
[8] Balkans Aljazeera. 22 May 2020. "Bosnia and Herzegovina received medical assistance from the EU, respirators arrived from Sweden". [http://balkans.aljazeera.net/vijesti/bih-dobila-medicinsku-pomoc-od-eu-stigli-respiratori-iz-svedske]. Accessed 30 October 2020.
[9] International Organization for Migration. 12 August 2020. "European Union donates protective equipment against Covid-19 to Border Police and Foreigners Service". [https://bih.iom.int/pbn/evropska-unija-donirala-za%C5%A1titnu-opremu-protiv-covid-19-grani%C4%8Dnoj-policiji-i-slu%C5%BEbi-za-poslove]. Accessed 30 October 2020.

4.3 MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

4.3.1 System for dispensing medical countermeasures (MCM) during a public health emergency

4.3.1a

Does the country have a plan, program, or guidelines in place for dispensing medical countermeasures (MCM) for national use during a public health emergency (i.e., antibiotics, vaccines, therapeutics and diagnostics)?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available information that Bosnia and Herzegovina has a plan, program, or guidelines in place for dispensing medical countermeasures for national use during a public health emergency (i.e. antibiotics, vaccines, therapeutics and diagnostics). These documents could not be found on the websites of the Ministry of Health, Ministry of Security, Institute for Public Health or Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. [1, 2, 3, 4, 5, 6]

The Pandemic Influenza Preparedness and Control Plan of Bosnia and Herzegovina recommends that medical supplies for drugs (to treat at least 13,000-18,000 patients) are stocked at hospital pharmacies (page 39), but there is no evidence that this recommendation has been implemented since the plan's adoption in 2009. [7]

[1] Ministry of Security of Bosnia and Herzegovina. [http://www.msb.gov.ba/onama/default.aspx?id=3053&langTag=en-US]. Accessed 30 October 2020.
[2] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[4] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. [http://www.almbih.gov.ba/en/about-us/]. Accessed 30 October 2020.
[5] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.
[7] Ministry of Security of Bosnia and Herzegovina. 2009. "Pandemic Influenza Preparedness and Control Plan". [http://www.msb.gov.ba/Print.aspx?id=7275]. Accessed 30 October 2020.

4.3.2 System for receiving foreign health personnel during a public health emergency

4.3.2a

Is there a public plan in place to receive health personnel from other countries to respond to a public health emergency?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no public plan in place to receive health personnel from other countries to respond to a public health emergency. Although relevant legislation that regulates protection and rescue in the event of natural and other emergencies (including health emergencies) covers international cooperation, there are no detailed provisions on how this cooperation is ensured after the personnel arrive in the country. Articles 4-10 of the Framework Law on Protection and Rescue of People and Material Goods against Natural or Other Disasters in Bosnia and Herzegovina regulates international cooperation, including the possibility of receiving health personnel from other countries. [1] Furthermore, Article 161 of the Law on Protection and Safety in Emergency Situations of the Republic of Srpska, Article 8 of the Law on Protection and Rescue of People and Material Goods from Natural and other Disasters in the Federation of Bosnia and Herzegovina, and Articles 5 and 19 of the Law on Protection and Saving of People and Material Goods from Natural and Other Accidents of Brcko District also contain provisions for receiving personnel from abroad. [2, 3, 4] However, there are no details on procedures once the personnel arrive.

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesre?a u BiH, PSBiH broj: 198/08)." [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)" [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[3] Parliament of Federation of Bosnia and Herzegovina. 2010. " Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[4] Parliament of Brcko District. 2016. "Law on Protection and Saving of People and Material Goods from Natural and other Accidents (Zakon o zaštiti i spasavanju ljudi i materijalnih dobara od prirodnih i drugih nesre?a u Br?ko distriktu Bosne i Hercegovine, Br. 01-02-691/16)". [https://skupstinabd.ba/3-zakon/sr/Zakon%20o%20zas--titi%20i%20spasavanju%20ljudi%20i%20materijalnih%20dobara%20od%20prirodnih%20i%20drugih%20nesreca/001%2029-16%20Zakon%20o%20zastiti%20i%20spasavanju%20ljudi%20i%20materijalnih%20dobara%20od%20prirodnih%20i%20drugih%20nesreca.pdf]. Accessed 30 October 2020.

4.4 HEALTHCARE ACCESS

4.4.1 Access to healthcare

4.4.1a

Does the constitution explicitly guarantee citizens' right to medical care?

Guaranteed free = 4, Guaranteed right = 3, Aspirational or subject to progressive realization = 2, Guaranteed for some groups, not universally = 1, No specific provision = 0

Current Year Score: 0

2020

World Policy Analysis Center

4.4.1b

Access to skilled birth attendants (% of population)

Input number

Current Year Score: 99.9

2015

WHO/World Bank/United Nations Children's Fund (UNICEF)

4.4.1c

Out-of-pocket health expenditures per capita, purchasing power parity (PPP; current international $)

Input number

Current Year Score: 341.62

2017

WHO Global Health Expenditure database

4.4.2 Paid medical leave

4.4.2a

Are workers guaranteed paid sick leave?

Paid sick leave = 2, Unpaid sick leave = 1, No sick leave = 0

Current Year Score: 2

2020

World Policy Analysis Center

4.4.3 Healthcare worker access to healthcare

4.4.3a

Has the government issued legislation, a policy, or a public statement committing to provide prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency?

Yes = 1 , No = 0

Current Year Score: 0

Bosnia and Herzegovina has not issued legislation, a policy or a public statement committing to provide prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency. Based on a review of

the legislation related to health protection and disaster risk management, at central and entity level, such as laws on healthcare protection (regulating the provision of health protection, principles of health protection, rights and obligations of patients, etc.), laws on the protection of population from infectious diseases, and by-laws related to civil protection emergency response and media outlets, there are no references to prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

[1] National Parliament of Republic of Srpska. 2015. "Law on Health Care Protection (Zakon o zdravstvenoj zaštiti, Sl. gl. RS, br. 106/09, 44/15)". [https://www.zdravstvo-srpske.org/propisi/zakoni.html]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Health Care Protection (Zakon o zdravstvenoj zaštiti, Sl. n. FBiH, broj 01-02-430/10)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/zakon_o_zdravstvenoj_zastiti_46-10.pdf]. Accessed 30 October 2020.
[3] National Parliament of Republic of Srpska. 2009. "Law on Health Insurance (Zakon o zdravstvenom osiguranju, Sl. gl. RS, br. 18/99, 51/01, 70/01, 51/03, 57/03, 17/08, 01/09, 106/09)". [https://www.zdravstvo-srpske.org/propisi/zakoni.html]. Accessed 30 October 2020.
[4] Parliament of Federation of Bosnia and Herzegovina. 1997. "Law on Health Insurance (Zakon o zdravstvenom osiguranju, Sl. n. FBiH, br. 01-972/97)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zdravstvenom_osiguranju-30_97_1.pdf]. Accessed 30 October 2020.
[5] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[6] Parliament of Federation of Bosnia and Herzegovina. 2005. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. n. FBIH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[7] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesre?a u BiH, PSBiH broj: 198/08)". [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[8] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[9] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slu?aju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[10] Parliament of Brcko District. 2016. "Law on Protection and Saving of People and Material Goods from Natural and other Accidents (Zakon o zaštiti i spasavanju ljudi i materijalnih dobara od prirodnih i drugih nesre?a u Br?ko distriktu Bosne i Hercegovine, Br. 01-02-691/16)". [https://skupstinabd.ba/3-zakon/sr/Zakon%20o%20zas--titi%20i%20spasavanju%20ljudi%20i%20materijalnih%20dobara%20od%20prirodnih%20i%20drugih%20nesreca/001%2029-16%20Zakon%20o%20zastiti%20i%20spasavanju%20ljudi%20i%20materijalnih%20dobara%20od%20prirodnih%20i%20drugih%20nesreca.pdf]. Accessed 30 October 2020.

4.5 COMMUNICATIONS WITH HEALTHCARE WORKERS DURING A PUBLIC HEALTH EMERGENCY

4.5.1 Communication with healthcare workers

4.5.1a

Is there a system in place for public health officials and healthcare workers to communicate during a public health emergency?

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that there is a system in place for public health officials and healthcare workers to communicate during a public health emergency in Bosnia and Herzegovina.

Relevant legislation that regulates protection and rescue in the event of natural and other emergencies encompasses health emergencies. According to Article 9 of the Ordinance on Organization, Conditions and Manner of Operation of the Operational Communication Center of Bosnia and Herzegovina - 112, this Center ensures day-to-day operational collection and exchange of information between participants in protection and rescue, and conducts and coordinates the detection and monitoring of all types of hazards and their consequences. [1] The Operational Communication Center of Bosnia and Herzegovina - 112 is a unit that operates within the Ministry of Security. [2]

In addition, according to Article 13 of the Ordinance, the unique emergency number 112 is also used for "informing and directing information on natural or other disasters in and outside of Bosnia and Herzegovina to the competent institutions and bodies of Bosnia and Herzegovina for the purpose of taking measures and activities for protection and rescue", as well as for the "transfer of information between protection and rescue participants", including healthcare workers. [1, 3] However, there is no explicit evidence of a two-way communication system for both public health officials and healthcare workers to communicate during public health emergencies. No further information on the system is available via the Ministries of Health. [4, 5]

[1] Ministry of Security of Bosnia and Herzegovina. 2009. "Ordinance on organization, conditions and manner of operation of the Operational Communication Centre of Bosnia and Herzegovina - 112 (Pravilnik o organizaciji, uvjetima i nacinu funkcioniranja Operativno- komunikacijskog centra Bosne i Hercegovine - 112, br. 143/09)". [http://msb.gov.ba/Zakoni/akti/default.aspx?id=4074&langTag=bs-BA]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. "Organizational structure". [http://www.msb.gov.ba/onama/default.aspx?id=1653&langTag=bs-BA]. Accessed 30 October 2020.
[3] Ministry of Security of Bosnia and Herzegovina. "System 112". [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/hitni_slucajevi/default.aspx?id=4022&langTag=bs-BA]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

4.5.1b

Does the system for public health officials and healthcare workers to communicate during an emergency encompass healthcare workers in both the public and private sector?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available information about whether the system for public health officials and healthcare workers to communicate during an emergency encompasses healthcare workers in the public and private sectors.

Relevant legislation that regulates protection and rescue in the event of natural and other emergencies is specifically inclusive of health emergencies. According to Article 9 of the Ordinance on Organization, Conditions and Manner of Operation of the Operational Communication Center of Bosnia and Herzegovina - 112, this Center ensures day-to-day operational collection and exchange of information between participants in protection and rescue, and conducts and coordinates the detection and monitoring of all types of hazards and their consequences. [1] The Operational Communication Center of Bosnia and Herzegovina - 112 is a unit that operates within the Ministry of Security. [2]

In addition, according to Article 13 of the Ordinance, the unique emergency number 112 is also used for "informing and directing information on natural or other disasters in and outside of Bosnia and Herzegovina to the competent institutions and bodies of Bosnia and Herzegovina for the purpose of taking measures and activities for protection and rescue", as well as "transfer of information between protection and rescue participants", including healthcare workers. However, it cannot be confirmed that private healthcare workers are included in this system. Information about the Operational Communication Center of Bosnia and Herzegovina - 112, suggests the unique emergency number 112 does not address communications with private healthcare workers. [1, 3] Additionally, the Ministry of Health does not have information about a system in place for public health officials and healthcare workers to communicate during a public health emergency. [4, 5]

[1] Ministry of Security of Bosnia and Herzegovina. 2009. "Ordinance on organization, conditions and manner of operation of the Operational Communication Centre of Bosnia and Herzegovina - 112 (Pravilnik o organizaciji, uvjetima i nacinu funkcioniranja Operativno- komunikacijskog centra Bosne i Hercegovine - 112, br. 143/09)". [http://msb.gov.ba/Zakoni/akti/default.aspx?id=4074&langTag=bs-BA]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. "Organizational structure". [http://www.msb.gov.ba/onama/default.aspx?id=1653&langTag=bs-BA]. Accessed 30 October 2020.
[3] Ministry of Security of Bosnia and Herzegovina. "System 112". [http://www.msb.gov.ba/onama/struktura/zastita_spasavanje/hitni_slucajevi/default.aspx?id=4022&langTag=bs-BA]. Accessed 30 October 2020.
[4] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[5] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

4.6 INFECTION CONTROL PRACTICES AND AVAILABILITY OF EQUIPMENT

4.6.1 Healthcare associated infection (HCAI) prevention and control programs

4.6.1a

Is there evidence that the national public health system is monitoring for and tracking the number of healthcare associated infections (HCAI) that take place in healthcare facilities?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina there is evidence of the public health system monitoring and tracking the number of healthcare-associated infections contracted in healthcare facilities.

The system is established at the entity level and regulated by the Ordinances on conditions and methods of carrying out measures for prevention and concentration of hospital infections. [1, 2] Relevant authorities (i.e. hospitals and Institutes for Public Health) collect data on healthcare-associated infections which can be confirmed with information provided by the "Analysis of Population Health in the Republic of Srpska" and "Annual Health Statistics of the Federation of Bosnia and Herzegovina". These reports are prepared by the Institutes for Public Health based on information received from their regional networks and statistical offices. [3, 4]

[1] Republic of Srpska. Ministry of Health. 2013. "Ordinances on conditions and method of carrying out the measures for prevention and concentration of hospital infections (Pravilnik o sadržaju programa i mjerama za spre?avanje i suzbijanje intrahospitalnih infekcija, Sl. gl. RS, br. 22/13)". [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/Documents/Pravilnik%20o%20sadrzaju%20programa%20i%20mjerama%20za%20sprecavanje%20i%20suzbijanje%20%20intrahospitalnih%20infekcija.pdf]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. 2010. "Ordinances on conditions and method of carrying out the measures for prevention and concentration of hospital infections (Pravilnik o uslovima i nacinu sprovo?enja mjera za spre?avanje i suzbijanje bolni?kih infekcija, Broj 01-37-7216/10)". [https://mz.ks.gov.ba/sites/mz.ks.gov.ba/files/Pravilnik%20za%20Bolnicke%20infekcije%20SLFBiH%2084-10.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Institute for Public Health. 2018. "Analysis of Population Health in Republic of Srpska". [https://www.javnozdravstvors.org/pdf/publikacije/ZDRAVSTVENO%20stanje%20stanovnistva%20Republike%20Srpske%20u%202018.%20godini,%20web.pdf]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Institute for Public Health. 2017. "Annual Health Statistics of Federation of Bosnia and Herzegovina". [https://www.zzjzfbih.ba/wp-content/uploads/2019/02/Zdravstveno-Statisticki-Godisnjak-2018-compressed.pdf]. Accessed 30 October 2020.

4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

4.7.1 Regulatory process for conducting clinical trials of unregistered interventions

4.7.1a

Is there a national requirement for ethical review (e.g., from an ethics committee or via Institutional Review Board approval) before beginning a clinical trial?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina there is a requirement for ethical review before beginning a clinical trial. The committee for clinical trials is an independent advisory body whose duty is to conduct assessments of the validity of clinical trials, as well as to assess the compatibility of such trials with good clinical practice, to ensure and protect the rights, safety and well-being of participants in clinical trials, and to create opportunities for fast and financially available innovative therapy. Applications for permission to conduct clinical testing and registration of clinical testing are processed by experts from the committee and the Agency for Medicinal Products and Medical Devices, with decisions issued in accordance with Directives 2001/20/EC and

2005/28/EC. [1]

[1] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "Clinical trials". [http://www.almbih.gov.ba/en/clinical-trials/]. Accessed 30 October 2020.

4.7.1b

Is there an expedited process for approving clinical trials for unregistered medical countermeasures (MCM) to treat ongoing epidemics?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is insufficient evidence that there is an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. The Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina is the government agency responsible for approving new medical countermeasures for humans and is an authority in the area of medicinal products and medical devices used in medical practices in the country. [1] The Agency supervises the pursuit of clinical trials. [2] According to Article 38 of the Law of Medicinal Products and Medical Devices, "in cases of state of emergency (epidemics, natural disasters of a larger scale, war conditions and other emergencies), the Director of the Agency may authorize the placing of the drug on the market before determining the conditions prescribed by this Law." [3] However, the Law and the Ordinance of Clinical Trials of Medicinal Products and Medical Devices do not envisage an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. [3, 4] The Ministries of Health and Science do not have information about clinical trials for unregistered medical countermeasures to treat ongoing pandemics. [5, 6, 7, 8]

[1] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "About us". [http://www.almbih.gov.ba/en/about-us/agency/]. Accessed 30 October 2020.
[2] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "Clinical Trials". [http://www.almbih.gov.ba/en/clinical-trials/]. Accessed 30 October 2020.
[3] Parliament of Bosnia and Herzegovina. 2008. "Law of Medicinal Products and Medical Devices (Zakon o lijekovima i medicinskim sredstvima, Sl. gl. BiH, 58/08)". [https://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-lijekovima-i-medicinskim-sredstvima]. Accessed 30 October 2020.
[4] Ministry of Civil Affairs. 2010. "Ordinance of clinical trials of medicinal products and medical devices (Pravilnik o klini?kom ispitivanju lijeka i medicinskog sredstva , Sl. gl. BiH, 04/10)". [http://www.almbih.gov.ba/_doc/regulative/pravilnik_klinicka_bos.pdf]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.

4.7.2 Regulatory process for approving medical countermeasures

4.7.2a

Is there a government agency responsible for approving new medical countermeasures (MCM) for humans?

Yes = 1 , No = 0

Current Year Score: 1

The Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina is the government agency responsible for approving new medical countermeasures for humans in the area of medicinal products and medical devices used in medical practices in the country. The Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina supervises the implementation of clinical trials in accordance with the Law on Medicinal Products and Medical Devices of Bosnia and Herzegovina ("Official Gazette of Bosnia and Herzegovina", No. 58/08), the Regulation on Clinical Examination of Medicinal Products and Medical Devices ("Official Gazette of Bosnia and Herzegovina", No. 4/10), and guidelines for good clinical practice in clinical examination. The Clinical Trials Committee is an independent advisory body whose responsibility is to evaluate the justification for clinical trials, as well as clinical trial compliance with the principles of good clinical practice. Requirements for the issue of a license or clinical trial application are processed by the European Commission and Agency experts, and the decision is issued in accordance with Directives 2001/20 / EC and 2005/28 / EC. [1]

[1] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "About us". [http://www.almbih.gov.ba/cir/klinicka-ispitivanja/]. Accessed 30 October 2020.

4.7.2b

Is there an expedited process for approving medical countermeasures (MCM) for human use during public health emergencies?

Yes = 1 , No = 0

Current Year Score: 1

In Bosnia and Herzegovina the Agency for Medicinal Products and Medical Devices is the government agency responsible for approving new medical countermeasures for humans in the area of medicinal products and medical devices used in medical practices in the country. [1] According to Article 38 of the Law of Medicinal Products and Medical Devices, "in cases of state of emergency (epidemics, natural disasters of a larger scale, war conditions and other emergencies), the Director of the Agency may authorize the placing of the drug on the market before determining the conditions prescribed by this Law". [2]

[1] Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina. "About us". [http://www.almbih.gov.ba/en/about-us/agency/]. Accessed 30 October 2020.
[2] Parliament of Bosnia and Herzegovina. 2008. "Law of Medicinal Products and Medical Devices (Zakon o lijekovima i medicinskim sredstvima, Sl. gl. BiH, 58/08)". [https://www.fmoh.gov.ba/index.php/zakoni-i-strategije/zakoni/zakon-o-lijekovima-i-medicinskim-sredstvima]. Accessed 30 October 2020.

Category 5: Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms

5.1 INTERNATIONAL HEALTH REGULATIONS (IHR) REPORTING COMPLIANCE AND DISASTER RISK REDUCTION

5.1.1 Official IHR reporting

5.1.1a

Has the country submitted IHR reports to the WHO for the previous calendar year?

Yes = 1 , No = 0

Current Year Score: 0

2020

World Health Organization

5.1.2 Integration of health into disaster risk reduction

5.1.2a

Are epidemics and pandemics integrated into the national risk reduction strategy or is there a standalone national disaster risk reduction strategy for epidemics and pandemics?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Bosnia and Herzegovina has a national risk reduction strategy or a standalone national disaster risk reduction strategy for pandemics. Although the country has emergency planning documents, there is no evidence of a disaster risk reduction strategy. Natural and other disasters are regulated by a set of laws at both the national and entity level, such as the Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina. [1, 2, 3] The Federation of Bosnia and Herzegovina has a Development Program for Protection and Saving of People and Material Goods from Natural and Other Accidents for the period 2018-2025, but a similar document does not exist in the Republic of Srpska. [4, 5] On the websites of the ministries of health there is no additional information about a national risk reduction strategy or a standalone national disaster risk reduction strategy for pandemics. [6, 7]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods from Natural and Other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljudi i materijalnih dobara od prirodnih ili drugih nesreca u BiH, PSBiH broj: 198/08)" [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2010. "Law on Protection and Rescue from Natural and Other Disasters (Zakon o zaštiti i spašavanju u slucaju prirodnih i drugih katastrofa, Sl.N BiH, br. 39/03, 22/06 i 43/10)". [http://www.zjztk.ba/file/zakon-o-zastiti-i-spasavanju-fbih/39]. Accessed 30 October 2020.
[3] Parliament of Republic of Srpska. 2017. "Law on Protection and Rescue in Emergency Situations (Zakon o zaštiti i

spašavanju u vanrednim situacijama, Sl. gl. RS, broj 121/12, 46/17)".
[http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-za%C5%A1titi-i-spasavanju-u-vanrednim-situacijama]. Accessed 30 October 2020.
[4] Parliament of Federation of Bosnia and Herzegovina. 2018. "Development Program for Protection and Saving of People and Material Goods from Natural and other Accidents in Federation of Bosnia and Herzegovina for period 2018-2025 (Program razvoja zaštite i spašavanja ljudi i materijalnih dobara od prirodnih i drugih nedre?a u Federaciji Bosne i Hercegovine za period 2018-2025)".
[http://parlamentfbih.gov.ba/dom_naroda/v2/userfiles/file/Materijali%20u%20proceduri_2018/PROGRAM%20RAZVOJA%20spasavanje%20ljudi%202018-2025%20-%20bos.pdf]. Accessed 30 October 2020.
[5] Republic of Srpska. Directorate for Civil Protection. "Documents".
[https://ruczrs.org/%d0%b4%d0%be%d0%ba%d1%83%d0%bc%d0%b5%d0%bd%d1%82%d0%b8/]. Accessed 30 October 2020.
[6] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[7] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.

5.2 CROSS-BORDER AGREEMENTS ON PUBLIC HEALTH AND ANIMAL HEALTH EMERGENCY RESPONSE

5.2.1 Cross-border agreements

5.2.1a

Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to public health emergencies?

Yes = 2, Yes, but there is evidence of gaps in implementation = 1, No = 0

Current Year Score: 2

Bosnia and Herzegovina has cross-border agreements with neighboring countries with regard to public health emergencies. Besides EU Member States, Bosnia and Herzegovina, in addition to Iceland, Montenegro, Norway, Serbia, North Macedonia and Turkey can benefit from the EU Civil Protection Mechanism. The Mechanism was set up to enable coordinated assistance from the participating states for victims of natural and manmade disasters in Europe and elsewhere, including public health emergencies. [1] In addition, Bosnia and Herzegovina has signed bilateral agreements on protection in cases of natural or other disasters with Croatia (2001), Montenegro (2007) and Serbia (2010). It has also signed several regional agreements, such as the Agreement on Cooperation in the Forecasting, Prevention, and Mitigation of Natural and Technological Disasters between the Governments of Austria, Croatia, Hungary, Italy, Poland, and Slovenia (1992), to which it later acceded. [2] In the agreements that are publicly available, such as those with Serbia, Croatia and Montenegro, public health emergencies are elaborated as emergency situations that severely damage or directly endanger life to a significant extent. [3, 4, 5] On the websites of the Ministry of Security, Ministry of Interior and media outlets there is no information about gaps in implementation of these agreements. [6, 7, 8]

[1] European Commission. "EU Civil Protection Mechanism". [http://ec.europa.eu/echo/what/civil-protection/mechanism_en]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. "Agreements".
[http://msb.gov.ba/dokumenti/sporazumi/Archive.aspx?langTag=bs-BA&template_id=104&pageIndex=1]. Accessed 30 October 2020.
[3] Ministry of Interior of the Republic of Serbia. 2010. "The Law on confirmation of the Agreement between the Government

of the Republic of Serbia and the Council of Ministers of Bosnia and Herzegovina on cooperation in protection form natural and other disasters (Zakon o potvrdjivanju sporazuma izmedju Vlade Republike Srbije i Saveta ministara Bosne i Hercegovine o saradnji u zaštiti od prirodnih i drugih katastrofa)". [http://www.mup.gov.rs/wps/wcm/connect/0e88e2c3-542e-400d-9314-034563031e34/Bosna+i+Hercegovina+-+Sporazum+o+saradnji+u+za%C5%A1titi+od+prirodnih+i+drugih+katastrofa.pdf?MOD=AJPERES&CVID=nc5SyaY]. Accessed 30 October 2020.
[4] Ministry of Security of Bosnia and Herzegovina. 2007. "Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Montenegro on Cooperation in Protection against Natural and Civilizational Disasters (Sporazum izme?u Vije?a ministara Bosne i Hercegovine i Vlade Republike Crne Gore o saradnji u zaštiti od prirodnih i civilizacijskih katastrofa)". [http://msb.gov.ba/dokumenti/sporazumi/default.aspx?id=6916&langTag=bs-BA]. Accessed 30 October 2020.
[5] Ministry of Security of Bosnia and Herzegovina. 2001. "Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Croatia on Cooperation in Protection against Natural and Civilizational Disasters (Sporazum izme?u Vije?a ministara Bosne i Hercegovine i Vlade Republike Hrvatske o saradnji u zaštiti od prirodnih i civilizacijskih katastrofa)". [http://msb.gov.ba/dokumenti/sporazumi/default.aspx?id=6919&langTag=bs-BA]. Accessed 30 October 2020.
[6] Ministry of Security of Bosnia and Herzegovina. [http://msb.gov.ba/Default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.

5.2.1b

Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to animal health emergencies?

Yes = 2, Yes, but there is evidence of gaps in implementation = 1, No = 0

Current Year Score: 2

Bosnia and Herzegovina has cross-border agreements with neighboring countries with regard to animal health emergencies. In 2010, Bosnia and Herzegovina signed an International Agreement on Cooperation in relation to Veterinary Medicine between with the Republic of Serbia. The primary goal of this initiative is more effective control and prevention of the infectious diseases of people and animals - both in the territory of the signatories and in the whole region. Some of the envisaged cooperation activities are bilateral exchange of reports on the status of infectious animal diseases, continuous exchange of reports on any eventual occurrence of infectious diseases, and in particular zoonosis, etc. [1] In addition, Bosnia and Herzegovina has signed bilateral agreements on protection in cases of natural or other disasters with Croatia (2001), Montenegro (2007) and Serbia (2010). Besides bilateral agreements, Bosnia and Herzegovina has signed several regional agreements, such as: Agreement on Cooperation in the Forecasting, Prevention, and Mitigation of Natural and Technological Disasters between the Governments of Austria, Croatia, Hungary, Italy, Poland, and Slovenia (1992), to which Bosnia and Herzegovina has acceded later. [2] In the agreements that are publicly available, such as those with Serbia, Croatia and Montenegro, animal health emergencies are elaborated as emergency situations which severely damage or directly endanger life to a significant extent. [3, 4, 5] On the websites of the Ministry of Security, ministries of interior and media outlets there is no information about gaps in implementation of these agreements. [6, 7, 8]

[1] European Commission. "EU Civil Protection Mechanism". [http://ec.europa.eu/echo/what/civil-protection/mechanism_en]. Accessed 30 October 2020.
[2] Ministry of Security of Bosnia and Herzegovina. "Agreements". [http://msb.gov.ba/dokumenti/sporazumi/Archive.aspx?langTag=bs-BA&template_id=104&pageIndex=1]. Accessed 30

October 2020.
[3] Ministry of Security of Bosnia and Herzegovina. 2007. "Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Montenegro on Cooperation in Protection against Natural and Civilizational Disasters (Sporazum izme?u Vije?a ministara Bosne i Hercegovine i Vlade Republike Crne Gore o saradnji u zaštiti od prirodnih i civilizacijskih katastrofa)". [http://msb.gov.ba/dokumenti/sporazumi/default.aspx?id=6916&langTag=bs-BA]. Accessed 30 October 2020.
[4] Ministry of Security of Bosnia and Herzegovina. 2001. "Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Croatia on Cooperation in Protection against Natural and Civilizational Disasters (Sporazum izme?u Vije?a ministara Bosne i Hercegovine i Vlade Republike Hrvatske o saradnji u zaštiti od prirodnih i civilizacijskih katastrofa)". [http://msb.gov.ba/dokumenti/sporazumi/default.aspx?id=6919&langTag=bs-BA]. Accessed 30 October 2020.
[5] Ministry of Interior of the Republic of Serbia. 2010. "The Law on confirmation of the Agreement between the Government of the Republic of Serbia and the Council of Ministers of Bosnia and Herzegovina on cooperation in protection form natural and other disasters (Zakon o potvrdjivanju sporazuma izmedju Vlade Republike Srbije i Saveta ministara Bosne i Hercegovine o saradnji u zaštiti od prirodnih i drugih katastrofa)". [http://www.mup.gov.rs/wps/wcm/connect/0e88e2c3-542e-400d-9314-034563031e34/Bosna+i+Hercegovina+-+Sporazum+o+saradnji+u+za%C5%A1titi+od+prirodnih+i+drugih+katastrofa.pdf?MOD=AJPERES&CVID=nc5SyaY]. Accessed 30 October 2020.
[6] Ministry of Security of Bosnia and Herzegovina. [http://msb.gov.ba/Default.aspx?pageIndex=1&langTag=bs-BA]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Interior. [http://www.mup.vladars.net/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Interior. [http://www.fmup.gov.ba/]. Accessed 30 October 2020.

5.3 INTERNATIONAL COMMITMENTS

5.3.1 Participation in international agreements

5.3.1a

Does the county have signatory and ratification (or same legal effect) status to the Biological Weapons Convention?

Signed and ratified (or action having the same legal effect) = 2, Signed = 1, Non-compliant or not a member = 0

Current Year Score: 2

2021

Biological Weapons Convention

5.3.1b

Has the country submitted confidence building measures for the Biological Weapons Convention in the past three years?

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1c

Has the state provided the required United Nations Security Council Resolution (UNSCR) 1540 report to the Security Council Committee established pursuant to resolution 1540 (1540 Committee)?

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1d

Extent of United Nations Security Council Resolution (UNSCR) 1540 implementation related to legal frameworks and enforcement for countering biological weapons:

Very good (60+ points) = 4, Good (45–59 points) = 3, Moderate (30–44 points) = 2, Weak (15–29 points) = 1, Very weak (0–14 points) or no matrix exists/country is not party to the BWC = 0

Current Year Score: 4

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

Does the country meet at least 2 of the following criteria?

- Membership in Global Health Security Agenda (GHSA)

- Membership in the Alliance for Country Assessments for Global Health Security and IHR Implementation (JEE Alliance)

- Membership in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP)

- Membership in the Australia Group (AG)

- Membership in the Proliferation Security Initiative (PSI)

Needs to meet at least two of the criteria to be scored a 1 on this measure. , Yes for five = 1 , Yes for four = 1 , Yes for three = 1 , Yes for two = 1 , Yes for one = 0 , No for all = 0

Current Year Score: 0

2021

Global Health Security Agenda; JE Alliance; Global Partnership; Australia Group; PSI

5.4 JOINT EXTERNAL EVALUATION (JEE) AND PERFORMANCE OF VETERINARY SERVICES PATHWAY (PVS)

5.4.1 Completion and publication of a Joint External Evaluation (JEE) assessment and gap analysis

5.4.1a

Has the country completed a Joint External Evaluation (JEE) or precursor external evaluation (e.g., GHSA pilot external assessment) and published a full public report in the last five years?

Yes = 1 , No = 0

Current Year Score: 0

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

5.4.1b

Has the country completed and published, within the last five years, either a National Action Plan for Health Security (NAPHS) to address gaps identified through the Joint External Evaluation (JEE) assessment or a national GHSA roadmap that sets milestones for achieving each of the GHSA targets?

Yes = 1 , No = 0

Current Year Score: 0

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

5.4.2 Completion and publication of a Performance of Veterinary Services (PVS) assessment and gap analysis

5.4.2a

Has the country completed and published a Performance of Veterinary Services (PVS) assessment in the last five years?

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.4.2b

Has the country completed and published a Performance of Veterinary Services (PVS) gap analysis in the last five years?

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5 FINANCING

5.5.1 National financing for epidemic preparedness

5.5.1a

Is there evidence that the country has allocated national funds to improve capacity to address epidemic threats within the past three years?

Yes = 1 , No = 0

Current Year Score: 0

There is no clear evidence that Bosnia and Herzegovina has allocated national funds to improve capacity to address epidemic threats within the past three years. In the budget of both entities there are funds allocated to improve capacity to address emergency situations. However, there is no evidence that these allocations include epidemic threats. [1, 2] On the websites of the Ministry of Health, Ministry of Agriculture and Institute for Public Health there is no further information about national funds allocated to improve capacity to address epidemic threats within the past three years. [3, 4, 5, 6, 7, 8]

[1] National Parliament of Republic of Srpska. Budget for 2019. [https://www.narodnaskupstinars.net/?q=la/akti/bud%C5%BEet/bud%C5%BEet-republike-srpske-za-2019-godinu]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Budget for 2019. [http://www.fbihvlada.gov.ba/bosanski/budzet/]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

5.5.2 Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses

5.5.2a

Does the Joint External Evaluation (JEE) report, National Action Plan for Health Security (NAPHS), and/or national GHSA roadmap allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?

Yes = 1 , No/country has not conducted a JEE = 0

Current Year Score: 0

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

5.5.2b

Does the Performance of Veterinary Services (PVS) gap analysis and/or PVS assessment allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?

Yes = 1 , No/country has not conducted a PVS = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5.3 Financing for emergency response

5.5.3a

Is there a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency (such as through a dedicated national reserve fund, an established agreement with the World Bank pandemic financing facility/other multilateral emergency funding mechanism, or other pathway identified through a public health or state of emergency act)?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina, there is no publicly identified special emergency public financing mechanism or funds which the country can access in the face of a public health emergency. According to Article 23 of the Framework Law on Protection and Rescue of People and Material Goods against Natural or Other Disasters in Bosnia and Herzegovina, funds for rescue and protection needs can be planned for on an annual basis within the budget of respective institutions. [1] Websites of the Ministries of Health and Civil Protection Units do not have information about special emergency public financing mechanisms or funds which the country can access in the event of a public health emergency. [2, 3, 4, 5, 6] Bosnia and Herzegovina is one of the beneficiaries outside of the EU of the EU civil protection mechanism, whose objective is to strengthen cooperation in the field of civil protection, with a view to improving prevention, preparedness and response to disasters. [7]

[1] Ministry of Security of Bosnia and Herzegovina. 2008. "Framework Law on Protection and Rescue of People and Material Goods against Natural or other Disasters in Bosnia and Herzegovina (Okvirni zakon o zaštiti i spašavanju ljidi i materijalnih dobara od prirodnih ili drugih nesre?a u Bosni i Hercegovini, Sl. BiH, br. 50/08)". [http://msb.gov.ba/Zakoni/zakoni/default.aspx?id=1721&langTag=bs-BA]. Accessed 30 October 2020.
[2] Republic of Srpska. Directorate for Civil Protection. [https://ruczrs.org/en/]. Accessed 30 October 2020.
[3] Federation of Bosnia and Herzegovina. Directorate for Civil Protection. [http://www.fbihvlada.gov.ba/srpski/uprave_v2/federalan_uprav_civ_zas.php]. Accessed 30 October 2020.
[4] Brcko District. Sub-Unit for Rescue and Protection. [http://www.bdcentral.net/index.php/ba/odjeljenja-vlade-brko-dsitrikta-bih/javna-bezbjednost/zatita-i-spaavanje]. Accessed 30 October 2020.

[5] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[7] EU Civil Protection Mechanism. [https://ec.europa.eu/echo/what/civil-protection/mechanism_en]. Accessed 30 October 2020.

5.5.4 Accountability for commitments made at the international stage for addressing epidemic threats

5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:
- Support other countries to improve capacity to address epidemic threats by providing financing or support?
- Improve the country�s domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 0

There is no evidence that political leaders in Bosnia and Herzegovina have made a public commitment in the past three years to improve its own domestic capacity to address epidemic threats by requesting support to improve capacity or made a public commitment either to support other countries to improve capacity to address epidemic threats by providing financing or support in the past three years. Websites of the Ministry of Health, Ministry of Foreign Affairs and the World Health Organization do not provide evidence of such commitments. [1, 2, 3, 4] However, in March 2020, the leaders of the three largest parties in Bosnia and Herzegovina asked for help from Serbia, Croatia and Turkey in the fight against the coronavirus pandemic. [5]

[1] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[2] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[3] Ministry of Foreign Affairs. [http://www.mvp.gov.ba/default.aspx?template_id=43&pageIndex=1]. Accessed 30 October 2020.
[4] World Health Organization (WHO). Bosnia and Herzegovina. [http://www.euro.who.int/en/countries/bosnia-and-herzegovina]. Accessed 30 October 2020.
[5] Radio slobodna Evropa. "Dodik with Vucic, Covic with Plenkovic, Izetbegovic with Erdogan". [https://www.slobodnaevropa.org/a/dodik-Vucic-covic-plenkovic-izbetbegovic-erdogan/30513219.html]. Accessed 30 October 2020.

5.5.4b

Is there evidence that the country has, in the past three years, either:
- Provided other countries with financing or technical support to improve capacity to address epidemic threats?
- Requested financing or technical support from donors to improve the country�s domestic capacity to address epidemic threats?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 1

There is evidence that Bosnia and Herzegovina has requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats. There is no evidence that the country has provided other countries with financing or technical support to improve capacity to address epidemic threats. The Global Health Security (GHS) Funding Tracker notes that in 2019-2020, Bosnia and Herzegovina received funds from multiple donors to enhance their capacity on global security preparedness, including areas such as antimicrobial resistance and zoonotic disease preparedness. [1] In addition, in March 2020, the leaders of the three largest parties in Bosnia and Herzegovina, asked for help from Serbia, Croatia and Turkey in the fight against the coronavirus pandemic. [2] However, the websites of the Ministry of Health and Ministry of Foreign Affairs, as well as World Health Organization website and the Funder profile of the GHS tracker do not have information about the country providing other countries with financing or technical support to improve capacity to address epidemic threats. [3, 4, 5, 6, 7]

[1] Global Health Security Funding Tracker. "Recipient profile". [https://tracking.ghscosting.org/details/896/recipient]. Accessed May 2021.
[2] Radio slobodna Evropa. "Dodik with Vucic, Covic with Plenkovic, Izetbegovic with Erdogan". [https://www.slobodnaevropa.org/a/dodik-Vucic-covic-plenkovic-izbetbegovic-erdogan/30513219.html]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx] Accessed 30 October 2020
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/] Accessed 30 October 2020
[5] Ministry of Foreign Affairs. [http://www.mvp.gov.ba/default.aspx?template_id=43&pageIndex=1] Accessed 30 October 2020
[6] World Health Organization (WHO). "Bosnia and Herzegovina". [http://www.euro.who.int/en/countries/bosnia-and-herzegovina] Accessed 30 October 2020
[7] Global Health Security Funding Tracker. "Funder Profile". [https://tracking.ghscosting.org/details/896/funder]. Accessed May 2021

5.5.4c

Is there evidence that the country has fulfilled its full contribution to the WHO within the past two years?

Yes = 1 , No = 0

Current Year Score: 1

2021

Economist Impact analyst qualitative assessment based on official national sources, which vary by country

5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research

5.6.1a

Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?

Yes = 1 , No = 0

Current Year Score: 0

In Bosnia and Herzegovina there is no policy for sharing genetic data, epidemiological data, clinical specimens, and/or isolated specimens (biological materials) with international organizations and/or other countries, beyond influenza. The Law on Protection of Population from Infectious Diseases in the Republic of Srpska envisages early detection and sharing of information under the conditions defined in the International Health Regulations. [1] However, the Law on Protection of Population from Infectious Diseases in the Federation of Bosnia and Herzegovina does not have any similar provision. [2] In addition, the websites of the Ministries of Health, Agriculture, Science and Institutes for Public Health provide no information about sharing genetic data, epidemiological data, etc. with international organizations and/or other countries that goes beyond influenza. [3, 4, 5, 6, 7, 8, 9, 10]

[1] National Parliament of Republic of Srpska. 2017. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. gl. RS, br. 90/17)". [http://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-zastiti-stanovnistva-od-zaraznih-bolesti]. Accessed 30 October 2020.
[2] Parliament of Federation of Bosnia and Herzegovina. 2015. "Law on Protection of Population from Infectious Diseases (Zakon o zaštiti stanovništva od zaraznih bolesti, Sl. novine FBiH, br. 29/05)". [http://www.fmoh.gov.ba/images/federalno_ministarstvo_zdravstva/zakoni_i_strategije/zakoni/zakoni_PDF/Zakon_o_zastiti_stanovnistva_od_zaraznih_bolesti__29-05.pdf]. Accessed 30 October 2020.
[3] Republic of Srpska. Ministry of Health and Social Protection. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[4] Federation of Bosnia and Herzegovina. Ministry of Health. [http://www.fmoh.gov.ba/]. Accessed 30 October 2020.
[5] Republic of Srpska. Ministry of Agriculture, Forestry and Water Management. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Pages/default.aspx]. Accessed 30 October 2020.
[6] Federation of Bosnia and Herzegovina. Ministry of Agriculture, Forestry and Water Management. [https://fmpvs.gov.ba/]. Accessed 30 October 2020.
[7] Republic of Srpska. Ministry of Science, Higher Education and Technology. [http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mnk/OMin/Pages/Splash.aspx]. Accessed 30 October 2020.
[8] Federation of Bosnia and Herzegovina. Ministry of Education and Science. [http://www.fmon.gov.ba/]. Accessed 30 October 2020.
[9] Republic of Srpska. Institute for Public Health. [http://www.phi.rs.ba/]. Accessed 30 October 2020.
[10] Federation of Bosnia and Herzegovina. Institute for Public Health. [http://www.zzjzfbih.ba/]. Accessed 30 October 2020.

5.6.1b

Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?

Yes = 0 , No = 1

Current Year Score: 1

Based on a Review of the Pandemic Influenza Preparedness (PIP) Framework issued by the World Health Organization in 2017, there are no references to Bosnia and Herzegovina not having shared samples in accordance with the PIP framework. In addition, there is no media coverage stating that Bosnia and Herzegovina has not shared influenza samples. [1]

[1] World Health Organization (WHO). 2017. "Review of the Pandemic Influenza Preparedness Framework". [https://apps.who.int/gb/ebwha/pdf_files/WHA70/A70_17-en.pdf]. Accessed 30 October 2020.

5.6.1c

Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?

Yes = 0 , No = 1

Current Year Score: 1

Based on the review of information from World Health Organization reports and website and media coverage, there is no evidence that Bosnia and Herzegovina has not shared pandemic pathogen samples during an outbreak in the past two years. [1] Bosnia and Herzegovina has shared Covid-19 samples during pandemic. [2]

[1] World Health Organization (WHO). [http://www.who.int]. Accessed 30 October 2020.
[2] World Health Organization (WHO). "Covid-19". [https://covid19.who.int/region/euro/country/ba]. Accessed 30 October 2020.

Category 6: Overall risk environment and vulnerability to biological threats

6.1 POLITICAL AND SECURITY RISK

6.1.1 Government effectiveness

6.1.1a

Policy formation (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

6.1.1b

Quality of bureaucracy (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1c

Excessive bureaucracy/red tape (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1d

Vested interests/cronyism (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1e

Country score on Corruption Perception Index (0-100, where 100=best)

Input number

Current Year Score: 35

2020

Transparency International

6.1.1f

Accountability of public officials (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1g

Human rights risk (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.2 Orderly transfers of power

6.1.2a

How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another?

Very clear, established and accepted = 4, Clear, established and accepted = 3, One of the three criteria (clear, established, accepted) is missing = 2, Two of the three criteria (clear, established, accepted) are missing = 1, Not clear, not established, not accepted = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.3 Risk of social unrest

6.1.3a

What is the risk of disruptive social unrest?

Very low: Social unrest is very unlikely = 4, Low: There is some prospect of social unrest, but disruption would be very limited = 3, Moderate: There is a considerable chance of social unrest, but disruption would be limited = 2, High: Major social unrest is likely, and would cause considerable disruption = 1, Very high: Large-scale social unrest on such a level as to seriously challenge government control of the country is very likely = 0

Current Year Score: 0

2021

Economist Intelligence

6.1.4 Illicit activities by non-state actors

6.1.4a

How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 2

2021

Economist Intelligence

6.1.4b

What is the level of illicit arms flows within the country?

4 = Very high, 3 = High, 2 = Moderate, 1 = Low, 0 = Very low

Current Year Score: 4

2020

UN Office of Drugs and Crime (UNODC)

6.1.4c

How high is the risk of organized criminal activity to the government or businesses in the country?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

Is this country presently subject to an armed conflict, or is there at least a moderate risk of such conflict in the future?

No armed conflict exists = 4, Yes; sporadic conflict = 3, Yes; incursional conflict = 2, Yes, low-level insurgency = 1, Yes; territorial conflict = 0

Current Year Score: 3

2021

Economist Intelligence

6.1.6 Government territorial control

6.1.6a

Does the government's authority extend over the full territory of the country?

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.7 International tensions

6.1.7a

Is there a threat that international disputes/tensions could have a negative effect?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 1

2021

Economist Intelligence

6.2 SOCIO-ECONOMIC RESILIENCE

6.2.1 Literacy

6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 97

2013

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); The Economist Intelligence Unit

6.2.2 Gender equality

6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.84

2018

United Nations Development Programme (UNDP); The Economist Intelligence Unit

6.2.3 Social inclusion

6.2.3a

Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)

Input number

Current Year Score: 0

2011

World Bank; Economist Impact

6.2.3b

Share of employment in the informal sector

Greater than 50% = 2, Between 25-50% = 1, Less than 25% = 0

Current Year Score: 1

Statistical data on employment in the informal sector from different sources do not match. According to ILO data, the share of employment in the informal sector is 30%. [1] According to World Bank data, the share of employment in the informal sector in 2019 was 11%. [2] According to the Employment and Social Affairs Platforms implemented by the Regional Cooperation Council, employment in the informal sector in the Western Balkans is between 18.1% to 33%. [3, 4]

[1] International Labor Organization. "Overview of the informal economy in Bosnia and Herzegovina". [https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/genericdocument/wcms_751314.pdf]. Accessed 30 October 2020.
[2] World Bank. "Informal Employment". [https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS]. Accessed 30 October 2020.
[3] Regional Cooperation Council. [https://www.rcc.int/priority_areas/27/employment-and-social-affairs-platform-esap-2]. Accessed 30 October 2020.
[4] Radio slobodna Evropa. "Informal employment in the Western Balkans is between 18 and 33 percent". [https://www.slobodnaevropa.org/a/29906251.html]. Accessed 30 October 2020.

6.2.3c

Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

Current Year Score: 2

2016, or latest available

World Bank; Economist Impact calculations

6.2.4 Public confidence in government

6.2.4a

Level of confidence in public institutions

Input number

Current Year Score: 0

2021

Economist Intelligence Democracy Index

6.2.5 Local media and reporting

6.2.5a

Is media coverage robust? Is there open and free discussion of public issues, with a reasonable diversity of opinions?

Input number

Current Year Score: 1

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.33

Latest available.

World Bank; Economist Impact calculations

6.3 INFRASTRUCTURE ADEQUACY

6.3.1 Adequacy of road network

6.3.1a

What is the risk that the road network will prove inadequate to meet needs?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 1

2021

Economist Intelligence

6.3.2 Adequacy of airports

6.3.2a

What is the risk that air transport will prove inadequate to meet needs?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 1

2021

Economist Intelligence

6.3.3 Adequacy of power network

6.3.3a

What is the risk that power shortages could be disruptive?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 3

2021

Economist Intelligence

6.4 ENVIRONMENTAL RISKS

6.4.1 Urbanization

6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 48.63

2019

World Bank

6.4.2 Land use

6.4.2a

Percentage point change in forest area between 2006–2016

Input number

Current Year Score: 1.63

2008-2018

World Bank; Economist Impact

6.4.3 Natural disaster risk

6.4.3a

What is the risk that the economy will suffer a major disruption owing to a natural disaster?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 1

2021

Economist Intelligence

6.5 PUBLIC HEALTH VULNERABILITIES

6.5.1 Access to quality healthcare

6.5.1a

Total life expectancy (years)

Input number

Current Year Score: 77.26

2018

United Nations; World Bank, UNICEF; Institute for Health Metrics and Evaluation (IHME); Central Intelligence Agency (CIA) World Factbook

6.5.1b

Age-standardized NCD mortality rate (per 100 000 population)

Input number

Current Year Score: 550.9

2019

WHO

6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 17.2

2019

World Bank

6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 38.3

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 17.9

2016

WHO

6.5.2 Access to potable water and sanitation

6.5.2a

Percentage of homes with access to at least basic water infrastructure

Input number

Current Year Score: 96.14

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 95.36

2017

UNICEF; Economist Impact

6.5.3 Public healthcare spending levels per capita

6.5.3a

Domestic general government health expenditure per capita, PPP (current international $)

Input number

Current Year Score: 908.59

2018

WHO Global Health Expenditure database

6.5.4 Trust in medical and health advice

6.5.4a

Trust medical and health advice from the government

Share of population that trust medical and health advice from the government , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 0

2018

Wellcome Trust Global Monitor 2018

6.5.4b

Trust medical and health advice from medical workers

Share of population that trust medical and health advice from health professionals , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018